WOODLOT for Windows
Version 3.1
User Manual

WOODLOT
FOR WINDOWS Version 3.1
3.1

B.C. Ministry of Forests
Resource Tenures and Engineering Branch
1450 Government Street, Victoria, B.C.

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1.0 Introduction to WOODLOT for Windows Version 3.1

This reference manual describes how to install and run WOODLOT for Windows version 3.1 (March 2002). It is organized to describe:

- Introduction to WOODLOT for Windows
- Installation of WOODLOT and testing the installation
- WOODLOT basic features
- Conventions and Buttons Used in WOODLOT
- Functional screens and features in WOODLOT
- Appendices with information for users

1.1 Getting a Copy of WOODLOT

WOODLOT is currently freeware provided by the BC Ministry of Forests and funded by Forest Renewal B.C. You may obtain a copy of WOODLOT at no charge from the following sources:

- Enfor Consultants Ltd. website (http://www.enfor.com)
- Federation of BC Woodlot Associations (tel.: 250 847-2834)
- Ministry of Forests, Resource Tenures and Engineering Branch (tel.: 250 387-8317)

Please ensure that you register as a WOODLOT user either through the Internet (http://www.enfor.com) or by telephone (Dave Haley at RTEB 250 387-8317 or Enfor Consultants Ltd. 604 984-0832.) This process is mainly to notify users of upgrades for the software.

Please contact your woodlot licence staff person or the above for information on the latest updates.

1.2 Background

Enfor Consultants Ltd. developed WOODLOT for the Ministry of Forests (MOF), Resource Tenures and Engineering Branch for calculating sustainable harvest rates on woodlot licenses in British Columbia. These harvest rates are used in determining the Allowable Annual Cut (AAC) on woodlots.

WOODLOT is a Windows based model developed for use by operational forestry professionals and technicians specializing in woodlot licence management. Some highlights of WOODLOT are:

- user friendly Windows based features and interface
- allows for loading data manually or from spreadsheets
- help information displayed at the bottom of the polygon data entry screen
- approximates forest cover harvest constraints and some economic harvest parameters
- approximates partial cutting
- interactive harvest calculations
- on screen graphics of yield curves, standing volume over time and age class distribution
- produces professional quality reports

An important feature of WOODLOT is that summary data and calculations are displayed. This is an attempt to make the data requirements and calculations transparent, and thereby easily understood. Graphical displays make the application relatively easy to use, to assist the user with decisions for calculating harvest rates, to view implications of alternate harvest rates, constraints and alternate management practices. All polygon data and most parameters are adjustable on screen.

The original WOODLOT version 1.0 was created in 1995 to help woodlot forest district staff and licensees calculate harvest rates for woodlot licences in BC. WOODLOT was designed to be a stand alone user-friendly, Windows based program capable of producing harvest rate calculations using forest cover and resource management information readily available to forest district staff and licensees.

WOODLOT has undergone several updates since 1995, with the latest update to version 3.1 in March 2002. The program retains its original user friendly interface, though has undergone substantial internal changes to make it Year 2000 compliant, update the timber yield models, improve the usability, and improve the calculations.

1.3 Acknowledgements

The assistance, ideas and cooperation of the following are gratefully acknowledged:

- Dave Haley, RPF, Resource Tenures and Engineering Branch, MOF
- Federation of BC Woodlot Associations (Carmen Wheatley and Harold Reedy)
- Woodlot Licensees in BC
- Woodlot staff in Forest Regions and Districts
- Russ Cozens, RPF, formerly of Resource Tenures & Engineering Branch, MOF;
- Cam Bartram, RPF, Resource Inventory Branch, MOF;
- Albert Nussbaum, RPF, Research Branch, MOF;
- Barry Snowden, RPF, Forest Practices Branch, MOF;
- Dave Waddell, RPF, Timber Supply Branch, MOF;
- Mike Greig RPF, P.Eng and Richard Kyle, Enfor Consultants Ltd.

This project has been partially funded by Forest Renewal BC.

2.0 Installation of WOODLOT

2.1 Computer System Requirements

Any computer capable of running Windows should run WOODLOT. You will require:

Hard Drive	20MB free storage space
Memory (RAM)	32MB RAM
Operating Systems	Windows 95, 98, ME, NT4, 2000, or XP

If you require a Service Pack for NT they are available from Microsoft via the Internet: (http://support.microsoft.com/support/downloads/)

WOODLOT now only operates on 32 bit operating systems, therefore will not run on Windows 3.1 operating systems (16-bit).

2.2 Software Requirements

WOODLOT comes with all the software required to run and provide reports. Some other software packages are recommended for preparing data, formatting reports and printing as noted below.

2.2.1 Recommended Software

There is some software that we recommend you use with WOODLOT to assist with loading in large data sets and for preparing final reports, as noted below.

Notepad:	included with Windows, for viewing and printing unformatted text reports.
Word Processor:	Word for Windows (or equivalent Windows based word processor) for final formatting of your reports.
Spreadsheet:	Excel (or equivalent Windows based spreadsheet), for creating data entry files.

2.3 Installation

WOODLOT software and User Manual is available from:

- CD-ROM or diskettes where available
- MOF website (http://www.for.gov.bc.ca/rte/woodlots/aac-program.htm)
- Enfor website (http://www.enfor.com).

Ministry of Forests staff must contact their Systems Administrator for installation.

The installation is the same basic procedure for each format, though depending on your operating system, you will start this procedure differently as described below.

Prior to installing WOODLOT, please ensure that you have a temporary directory where WOODLOT can be installed initially as part of the installation procedure.

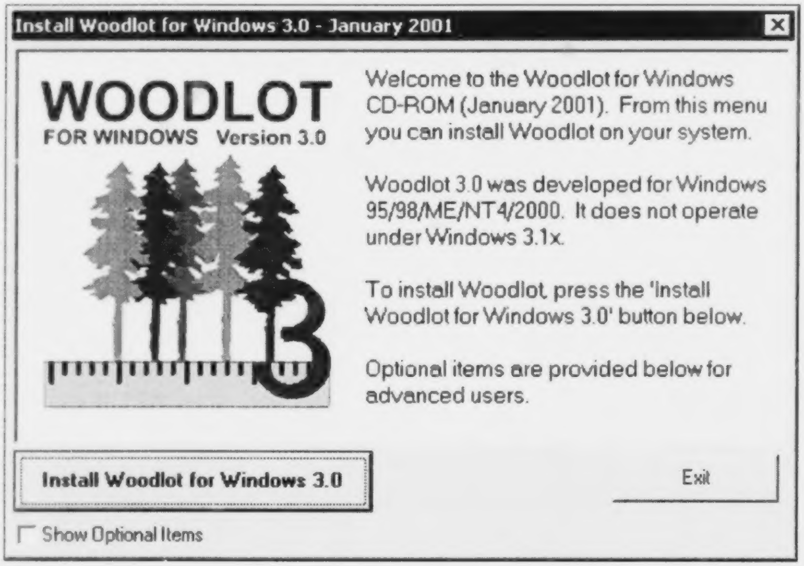
Important Notice about "Libraries need to be Updated": You may be prompted during the installation process that your "libraries need to be updated". This means that you are running an older version of Windows that does not have the updated operating system files to run the latest version of WOODLOT. You will need to click OK to have the new Windows library files provided free with the installation software and update your computer in order to load WOODLOT. This will not affect any of your existing programs, yet will enhance your computer system for other applications. You will need to re-run the setup program once this is done.

With your computer running, first close down all programs that are active. It is a good idea when installing any software package to close all other applications. 'MS Office Shortcut Bar' and other similar programs share system files with WOODLOT and other Windows programs. These programs must be closed during the installation of WOODLOT.

Please contact Enfor Consultants Ltd (tel.: 604 984-0832) if you have any installation problems.

2.3.1 CD-ROM installation

1. Insert the CD-ROM. The "AutoPlay" feature on the CD-ROM will automatically display the following screen. (This could take a few seconds)


Install Woodlot for Windows 3.0 - January 2001
WOODLOT
FOR WINDOWS Version 3.0
Install Woodlot for Windows 3.0
Exit
☐ Show Optional Items

Welcome to the Woodlot for Windows CD-ROM (January 2001). From this menu you can install Woodlot on your system.

Woodlot 3.0 was developed for Windows 95/98/ME/NT4/2000. It does not operate under Windows 3.1x.

To install Woodlot, press the 'Install Woodlot for Windows 3.0' button below.

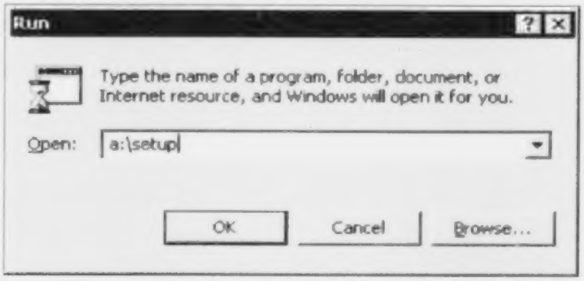
Optional items are provided below for advanced users.

2. Press the "Install Woodlot for Windows 3.0" button

Proceed to step five in Section *"2.3.4 Installation Continued"*.

2.3.2 Diskette Installation

1. Insert disk #1 into your drive.
2. Press **Start** to bring up the start menu.
3. Then click on run. This will bring up the following screen.



Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.

Open: a:\setup

4. In the text box, type "a:\setup" where "a" is the letter of the drive that you are installing from. Then press <OK>.

Proceed to step five in Section *"2.3.4 Installation Continued"*.

2.3.3 Website Installation

A website installation is available through the Internet from **http://www.for.gov.bc.ca/rte/woodlots/aac-program.htm.** You may download the complete version of WOODLOT (and upgrades as they come available) from this website. Please refer to this website periodically to check for upgrades. A copy is also available on **www.enfor.com**

Note that the file sizes for a download are approximately 9MB for WOODLOT 3.1, so you should check that you have the capacity to download large files from the Internet.

The website installation procedure is:

1. Using Windows Explorer, create a new directory on your Desktop, called "WOODLOT Install". This is where you will download the WOODLOT installation files to.
2. Using your Internet browser, connect to **http://www.for.gov.bc.ca/rte/woodlots/aac-program.htm .** Navigate to the WOODLOT download webpage. Follow the instructions to download the program and save it to your newly created folder.
3. When downloading is complete, open the folder in Windows Explorer, double click on the program file titled ***"wl31.exe"***. A message box will appear, and this will start a process to decompress all files needed for installation.
4. When the file decompression is complete, double click on the program called 'setup.exe' to start the set up features.

Proceed to step five in Section *"2.3.4 Installation Continued"*.

2.3.4 Installation Continued.

5. A message box may appear to indicate "some files already on your computer may need to be overwritten". Close these files so as not to cause a "sharing violation" problem, and

then continue with overwriting. The installation program will check versions of libraries and system files before overwriting.

6. A screen will then be displayed asking for the location where WOODLOT should be installed. The directory where WOODLOT is to be installed will be shown on a lower box. Most users will not need to change this directory. Press on the large button on the middle left side to install WOODLOT.

7. Follow the on screen instruction. If you are installing from diskettes, you will be prompted to insert each disk.

8. A "Woodlot 3.1" group will be created in your "Start" menu under "Programs". This group contains icons for; Woodlot 3.1, TIPSY Help, VDYP Help, WinTIPSY, BatchTIPSY.

For website installations, once WOODLOT is installed on your computer, return to the temporary directory you created and delete the files you downloaded and decompressed.

2.4 Upgrading a previous version of WOODLOT

If you currently have WOODLOT and are installing a new version of WOODLOT, we recommend that install the newest version and its accompanying files in a separate new directory in order to preserve a previous version. By default, WOODLOT 3.1 will install in "C:\Program Files\Woodlot3.1" unless you install it elsewhere during the setup.

Forest district staff should have their systems person keep a previous version in a separate directory for comparison purposes.

2.5 Comparing Files Between Versions of WOODLOT

Woodlot 3.0 and Woodlot 3.1 use the same file format and therefore can be transferred between the two without any problems.

Note that WOODLOT files are "forward compatible", but not "backward compatible'. That is, a version 1.0 or 2.1 file can be opened under version 3.1, but a version 3.1 file cannot be opened on version 2.1. There is an option in Woodlot 3.1 to save as version 2 or 1. Should you need to run an older version of WOODLOT to compare calculations, and have not saved a copy, check with the Resource Tenures and Engineering Branch for a copy of an older version, or Enfor Consultants Ltd. for assistance.

2.6 Uninstall

WOODLOT has an uninstall feature built into it. Please note that only files installed by the setup program will be deleted, therefore **temporary files and user files will remain intact**.

The uninstall information will be located under add/remove programs in the control panel. Control panel can be accessed from the start menu under settings.

2.7 Setting up External Programs

A number of external programs may be used for the report writing function, including Notepad, Word, and Excel. WOODLOT will automatically search and link to these if you have them on your computer. For more information, please see section *"15.4 Applications"*

The program location information is saved in the WOODLOT.INI file located in the WOODLOT directory.

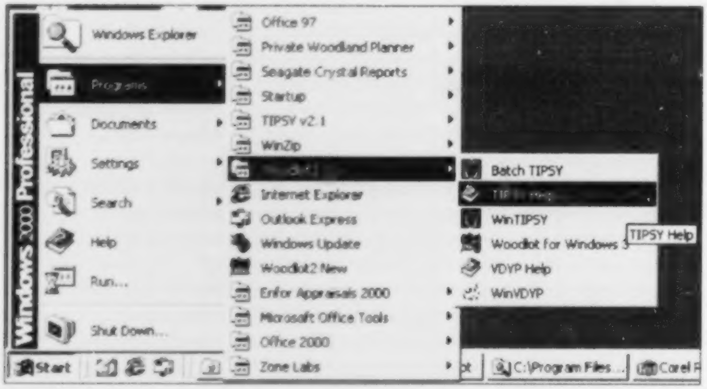
2.8 Updating VDYP & TIPSY Yield Model Programs

WOODLOT includes the following two yield model programs that are required for calculations. Both of these models were developed and are supported by the BC Ministry of Forests. Users of WOODLOT may wish to update these programs when new versions become available. The updated program may be copied to its appropriate directory specified in the WOODLOT Settings screen.

The latest versions of VDYP and TIPSY included in this release of WOODLOT are:

Software	Version included in WOODLOT version 3.1	MOF Contact person for upgrades
Batch VDYP	Version Prod 6.6d4	Cam Bartram, Resources Inventory Branch
BTIPSY	Version BTIPSY 3.0a	Shelley Grout, Research Branch

Information on the use and features of TIPSY is provided with WOODLOT version 3.0. This can be accessed directly from your directory as shown below, or from the Help command in WOODLOT.


Windows 2000 Professional
Windows Explorer
Programs
Documents
Settings
Search
Help
Run...
Shut Down...
Start
Office 97
Private Woodland Planner
Seagate Crystal Reports
Startup
TIPSY v2.1
WinZip
Internet Explorer
Outlook Express
Windows Update
Woodlot2 New
Enfor Appraisals 2000
Microsoft Office Tools
Office 2000
Zone Labs
Batch TIPSY
WinTIPSY
Woodlot for Windows 3
VDYP Help
WinVDYP
TIPSY Help
C:\Program Files...
Corel

Additional information on VDYP and TIPSY is available on the Internet at http://www.for.gov.bc.ca/research/gymodels/

2.9 Closing the DOS Screen Window Automatically

Because WOODLOT is no longer produced in a 16-bit format, this step is no longer required in version 3.1.

2.10 Association LOT files with WOODLOT

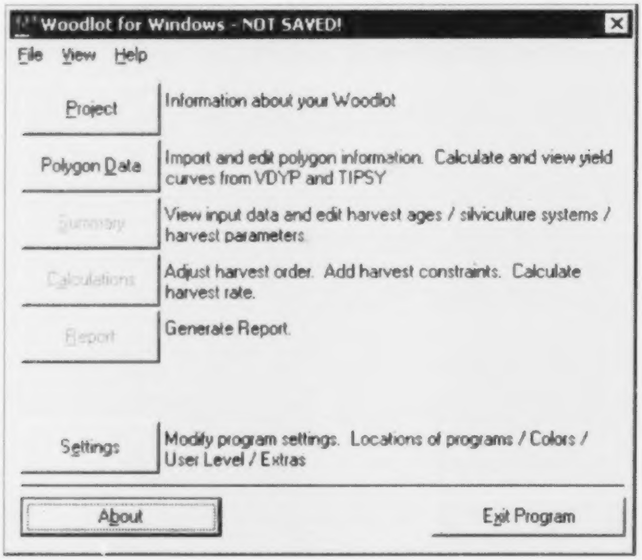
An association / file type specifies which program will automatically be launched in your computer when a program file is double clicked upon, to save you time from starting the program and then having to find your file.

WOODLOT automatically checks to see if it is associated with the .LOT extension every time it is started. If it is not associated it will ask the user for permission before associating itself

3.0 Testing Your Installation

This section has been added to the manual as a guide for your system administrator to be able to test the functions of WOODLOT without learning the software.

1. Load WOODLOT for Windows. The following **Main** screen appears after the **About** screen disappears:


Woodlot for Windows - NOT SAVED!
File
View
Help
Project
Polygon Data
Summary
Calculations
Report
Settings
About
Exit Program

Information about your Woodlot

Import and edit polygon information. Calculate and view yield curves from VDYP and TIPSY

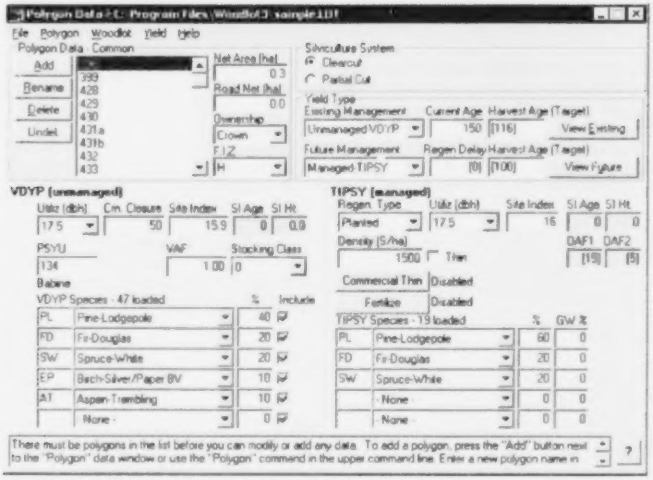
View input data and edit harvest ages / silviculture systems / harvest parameters

Adjust harvest order. Add harvest constraints. Calculate harvest rate.

Generate Report.

Modify program settings. Locations of programs / Colors / User Level / Extras

2. From the main screen menu bar, choose <File> and <Open>.
3. Select the **sample.lot** file and press <Open>
4. From the main screen choose **Polygon Data**. The following screen will appear.


Polygon Data - C:\Program Files\Woodlot3\sample.lot
File
Polygon
Woodlot
Yield
Help
Polygon Data - Common
Add
Rename
Delete
Undel
399
428
429
430
431a
431b
432
433
View Existing
View Future
Commercial Thin
Fertilize
?

Net Area (ha) 0.3
Road Net (ha) 0.0
Ownership Crown
F.I.Z. H

Silviculture System
● Clearcut
○ Partial Cut

Yield Type
Existing Management: Unmanaged VDYP, Current Age 150, Harvest Age (Target) [116]
Future Management: Managed TIPSY, Regen Delay [0], Harvest Age (Target) [100]

VDYP (unmanaged)
Utilz (dbh) 17.5, Crn. Closure 50, Site Index 15.9, SI Age 0, SI Ht 0.0
PSYU 134, VAF 1.00, Stocking Class 0
Babine

VDYP Species - 47 loaded

		%	Include
PL	Pine-Lodgepole	40	☑
FD	Fir-Douglas	20	☑
SW	Spruce-White	20	☑
EP	Birch-Silver/Paper BV	10	☑
AT	Aspen-Trembling	10	☑
	- None -	0	☑

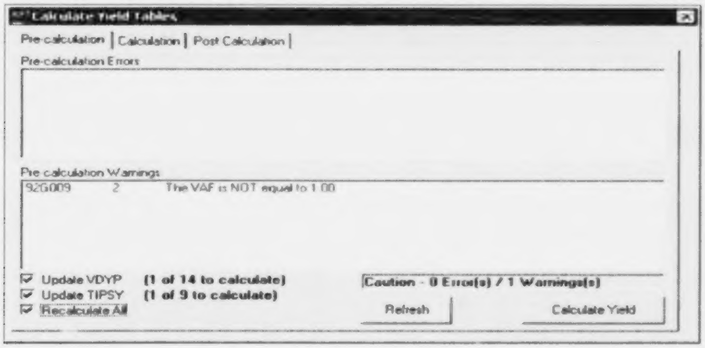
TIPSY (managed)
Regen. Type Planted, Utilz (dbh) 17.5, Site Index 16, SI Age 0, SI Ht 0
Density (S/ha) 1500 ☐ Thin
OAF1 [15] OAF2 [5]
Commercial Thin Disabled
Fertilize Disabled

TIPSY Species - 19 loaded

		%	GW %
PL	Pine-Lodgepole	60	0
FD	Fir-Douglas	20	0
SW	Spruce-White	20	0
	- None -	0	0
	- None -	0	0

There must be polygons in the list before you can modify or add any data. To add a polygon, press the "Add" button next to the "Polygon" data window or use the "Polygon" command in the upper command line. Enter a new polygon name in

5. From the polygon screen menu bar, choose <Yield> and <Calculate Yields>. The following screen titled **Calculate Yield Tables** appears:

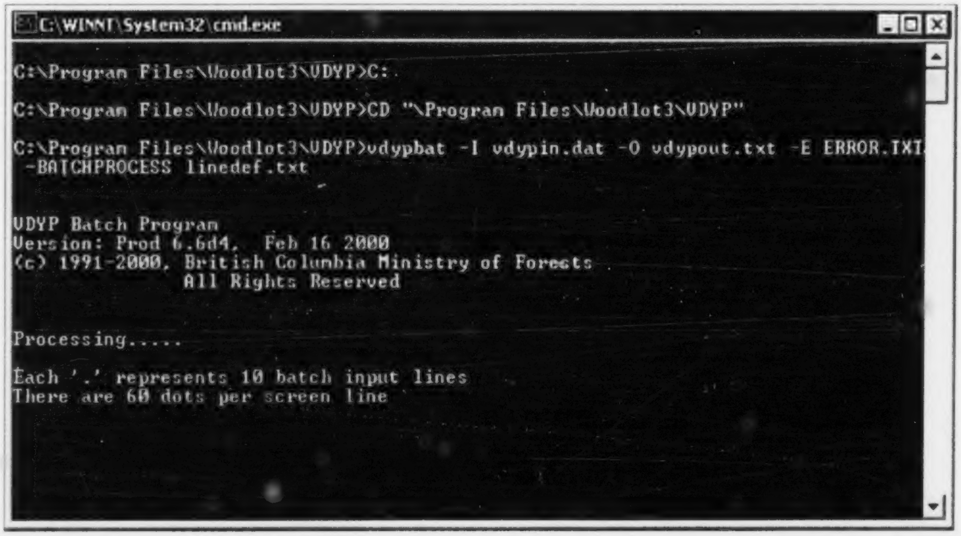

Calculate Yield Tables
Pre-calculation
Calculation
Post Calculation
Pre-calculation Errors
Pre-calculation Warnings
Refresh
Calculate Yield

92G009	2	The VAF is NOT equal to 1.00

☑ Update VDYP (1 of 14 to calculate)
☑ Update TIPSY (1 of 9 to calculate)
☑ Recalculate All

Caution - 0 Error(s) / 1 Warnings(s)

6. Check on the box ☑ labeled <Recalculate All> (as shown above)
7. Then press <Calculate Yield> button
8. WOODLOT will now shell out and run an external program called VDYP.
9. When VDYP has completed, WOODLOT will import the generated data file.
10. WOODLOT will shell out again and run another external program called TIPSY
11. When TIPSY has completed, WOODLOT will import the generated data file.


C:\WINNT\System32\cmd.exe

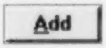
```
C:\Program Files\Woodlot3\VDYP>C:

C:\Program Files\Woodlot3\VDYP>CD "\Program Files\Woodlot3\VDYP"

C:\Program Files\Woodlot3\VDYP>vdypbat -I vdypin.dat -O vdypout.txt -E ERROR.TXT
 -BATCHPROCESS linedef.txt


VDYP Batch Program
Version: Prod 6.6d4,  Feb 16 2000
(c) 1991-2000, British Columbia Ministry of Forests
               All Rights Reserved


Processing.....

Each '.' represents 10 batch input lines
There are 60 dots per screen line
```

4.0 Conventions and Buttons Used in WOODLOT

WOODLOT 3.1 was programmed with Visual Basic 6.0 SP4. It provides many of the user interface features of most Windows based programs. Some of the conventions used in WOODLOT include:

4.1 Buttons and Shortcut Keystrokes

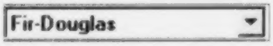
Buttons should be depressed by clicking with the left mouse button to activate the function.



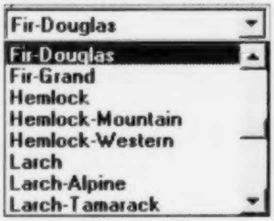
Several of the actions can be accomplished using shortcut keystrokes or function keys, which are also denoted by section. Pressing the Alt key and the underlined character will also cause the button to be depressed. In the above example, you can activate the button by typing Alt A.

4.2 Drop Down List Box

The item can be selected from a list that will appear by pressing on the down arrow.

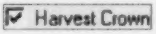

Fir-Douglas

An item can easily be found in the list by pressing the first letter of the item. Repeating this process will scroll through all items starting with that letter.


Fir-Douglas
Fir-Douglas
Fir-Grand
Hemlock
Hemlock-Mountain
Hemlock-Western
Larch
Larch-Alpine
Larch-Tamarack

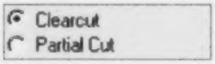
4.3 Check boxes

A check box works like a light switch, it can either be on (checked) or off (unchecked). Clicking on the box or the text next to the box will toggle the check on and off.


☑ Harvest Crown

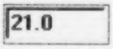
4.4 Radio Buttons

A radio button box is used to select one of two or more options. Notice a circle is used instead of a square like a check box. Only one option can be selected at one time.


● Clearcut
○ Partial Cut

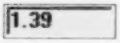
4.5 White Data Boxes

Each white data box will allow for a limited number of characters to be entered. Current information in the data box may need to be deleted before adding a new number.


21.0

4.6 Grey Data Boxes

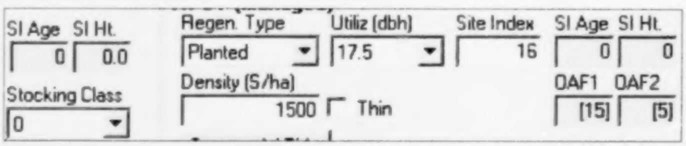
Grey data boxes hold information that cannot be edited (read only). Some of these are data returned by VDYP or TIPSY. Others are for features disabled in the settings screen or not yet available in WOODLOT.


1.39

4.7 Red Data Boxes

Red data boxes should only be used to enter data if you have the correct information for the following:

- Correct inventory plot information to compile a site index in VDYP or TIPSY, or
- Correct and verifiable data to adjust the OAFs in TIPSY.


SI Age: 0
SI Ht.: 0.0
Stocking Class: 0
Regen. Type: Planted
Utiliz (dbh): 17.5
Site Index: 16
SI Age: 0
SI Ht.: 0
Density (S/ha): 1500
☐ Thin
OAF1: [15]
OAF2: [5]

Please consult your inventory forester if you have any questions on the data that you require to use these fields.

4.8 File Conventions

Files created and used in WOODLOT for data and calculations include the following:

Function	File Extension used in WOODLOT for Windows	Comments
WOODLOT data and calculation files	.lot	Only read by WOODLOT, loaded in the Main Screen
Imported data files (Comma Delimited)	.csv	Read by Excel and spreadsheet programs, imported in the Polygon Data Screen
Exported data files (Comma Delimited)	.csv	Read by Excel and spreadsheet programs, exported in the Polygon Data Screen
Report text files	.txt	Read by any text editor or programs like Notepad. Used by WORD, EXCEL and Notepad in the Report Writer

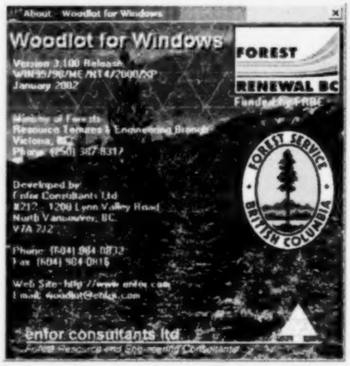
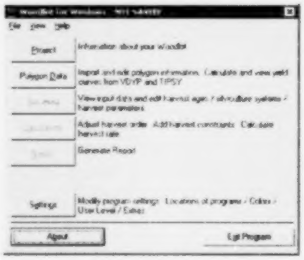
5.0 WOODLOT Basic Features

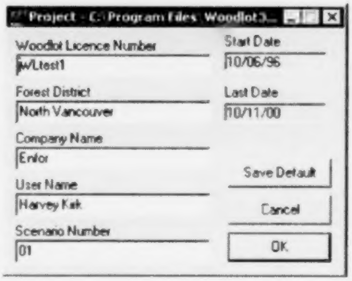
This section provides an overview of basic functions of WOODLOT, and a sample to acquaint you with how to run WOODLOT for the first time. Refer to subsequent sections for specific detail about the functions in WOODLOT.

WOODLOT is a timber supply analysis program which takes the timber information you provide, estimates the growth and yield from your woodlot, and calculates the best possible sustainable harvest rate for the planning period. Like any program, the results are as good as the information that you provide.

5.1 Basic Functions in WOODLOT

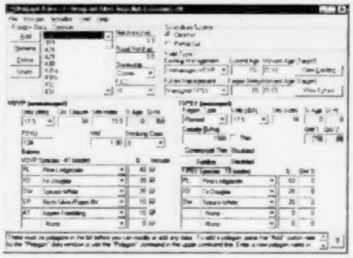
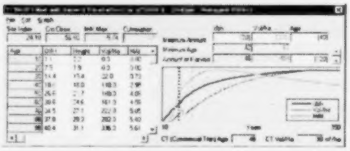
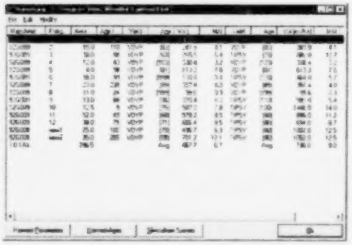
There are eight major areas within WOODLOT, each operates from a separate screen with sub-screens of information and data as summarized below.

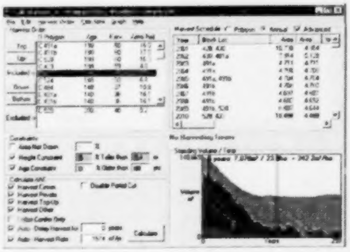
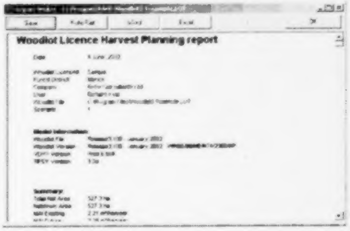
Screen	Screen/Function	What it does
 About - Woodlot for Windows FOREST RENEWAL BC FOREST SERVICE BRITISH COLUMBIAWoodlot for Windows Version 3.100 Release WIN95/98/ME/NT4/2000/XP January 2002 Ministry of Forests Resource Tenures & Engineering Branch Victoria, BC Phone (250) 387-8317 Developed by: Enfor Consultants Ltd #217 - 1200 Lynn Valley Road North Vancouver, BC V7A 2J2 Phone (604) 984-0832 Fax (604) 984-0816 Web Site http://www.enfor.com E-mail: woodlot@enfor.com enfor consultants ltd Forest Resource and Engineering Consultants	About Screen	This screen shows important information about the version of WOODLOT, credits, and contact information for the developer.
 File View Help Project Polygon Data Settings About Exit ProgramInformation about your Woodlot Import and edit polygon information. Calculate and view yield curves from VDYP and TIPSY View input data and edit harvest ages / silviculture systems / harvest parameters Adjust harvest order. Add harvest constraints. Calculate harvest rate Generate Report Modify program settings: Locations of programs / Colors / User Level / Extras	Main Screen	The Main Screen is used to move between the other screens in WOODLOT, and to load up ".lot" files.

 Project - C:\Program Files\Woodlot3... Woodlot Licence Number: wLtest1 Start Date: 10/06/96 Forest District: North Vancouver Last Date: 10/11/00 Company Name: Enfor User Name: Harvey Kirk Scenario Number: 01 	Project Screen	You will enter your user information in the Project Screen to identify your particular project for future reference. It is carried forward to your report.

...cont'd

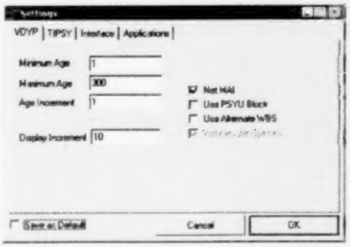
Basic Functions (continued)

Screen	Screen/Function	What it does
 	Polygon Data Screen and Yield Tables	The Polygon Data screen is used to enter all the basic forest inventory data and management information specific to each forest polygon. This is the most important data screen in WOODLOT, since this is where most of your base data is entered. Your final calculations are only as good as your input data, so you should spend an appropriate amount of time collecting and ensuring this screen is filled correctly. Help information is provided at the bottom of this screen for each data variable that you must enter.
	Summary Screen	The Summary screen is used to display basic polygon information for a quick check. This is also where you may adjust harvest parameters on the entire woodlot, adjust the silviculture system for one or many polygons or adjust the harvest ages for one or many polygons

	Calculations Screen	The Calculations screen is used to conduct harvest rate calculations. A harvest rate is calculated over the planning horizon (usually 250 years), though the planning horizon can be changed in the Summary screen. This is also where you can test the harvest calculation and sensitivity of variables used, by adjusting variables and re-running the harvest calculation.
 **Woodlot Licence Harvest Planning report**	Report Screen	This screen is used to generate reports in WOODLOT.

...cont'd

Basic Functions (continued)

Screen	Screen/Function	What it does
 Settings VDYP | TIPSY | Interface | Applications Minimum Age 1 Maximum Age 300 Age Increment 1 Display Increment 10 ☑ Net MAI ☐ Use PSYU Block ☐ Use Alternate WBS ☐ Save as Default Cancel OK	Settings Screens	The Settings screens are used to modify major settings and to describe file/program locations. These are utility screens for running WOODLOT, but not required by most users

5.2 Getting Acquainted

We suggest you acquaint yourself with the features of WOODLOT before running your first harvest rate calculation. Refer to section 5.1 Basic Functions in WOODLOT for a description of the main functional areas in WOODLOT. Refer to other sections in this user guide if you have questions on any particular screen or window.

Use the following steps and sample data to guide you through a test application. WOODLOT uses most features common to Windows based applications. All functions are activated by "pointing and clicking" on screen buttons with a mouse, or by using keystrokes. Polygon data (forest inventory information for each forest polygon) is entered either manually on the screens or by loading in polygon data input files. Parameters and constraints are changed on screen as you work.

Sample steps:

1. Load up WOODLOT by double clicking on the WOODLOT icon, or activate it by navigating to Start, then Programs, then WOODLOT 3.1. The **About** screen will appear, and then will *leave within a few seconds automatically. The* ***Main*** *screen with the six main buttons will* appear.

2. Load up a sample woodlot file. Click on <File> then <Open>. Click on the sample woodlot file titled "sample.lot" provided with WOODLOT. The filename will appear at the top of the screen once it is loaded in.

3. Click through the six main buttons to view the data that has been entered, and the results of the last calculation.

4. To check forest polygon data and yield information, click open the **Polygon Data** screen. You will see all the data for each individual polygon in the list box required to determine the yields. Click through several polygons to see information pertaining to each polygon.

5. To calculate sample yields for the polygons, on the menu bar, click on <Yield> then on <Calculate Yields>. A sub screen **Calculate Yield Tables** will pop up summarizing any data errors or warnings, and indicating the number of polygons to recalculate. In the lower left corner of this screen, click on the <recalculate all> check box, and then the <Calculate Yield> button:

6. The VDYP and TIPSY calculations will start and a black DOS screen will appear. Allow several seconds or minutes for it to compile the VDYP and TIPSY yields. The resulting yield information will be loaded into WOODLOT automatically, and you will be returned either to the **Polygon Data** screen.

7. To view timber yield information for any polygon, in the **Polygon Data** screen, click on the <View Existing> button at the right. Another screen will drop down at the bottom titled **Yield Table and Harvest Parameters**. This window will display a yield table and curves for the forest polygon you have displayed in the **Polygon Data** screen. You may have to click on the blue bar and drag this screen up to view it. Click on the <OK> button at the bottom right to close this screen, and then close the **Polygon Data** screen.

8. To view a summary of basic yield information for all your forest polygons, from the **Main** screen, select the **Summary** screen button. This will display a listing of polygons and harvest information. Click on <OK> to close this window and return to the **Main** screen, or look through the other buttons in this screen.

9. To run a calculation, from the **Main** screen, click on the **Calculations** screen button to open this screen.

10. Forest polygons are listed in a small display box called <Harvest order>. The calculation will assume that the order for harvest is the order listed here. Clicking on a polygon and using the buttons titled <Top>, <Up>, <Down>, and <Bottom> can change this order. Polygons can be removed by double clicking on them, and reintroduced by double clicking in the lower "excluded" text box.

11. The order can be automatically sorted by clicking on the Harvest Order menu item.

12. To run a calculation, click on the <Calculate> button in the lower portion of the screen and allow a few seconds. The model will calculate a non-declining even flow harvest rate for the polygons in the order selected, using yield information derived in **Polygon Data**. A small summary window will pop up during the calculation, which shows the calculations used to derive a harvest rate.

13. Click on <OK> on the small window to display the harvest rate, the Standing Time/Volume Graph, summary harvest schedule and any harvest parameters not met. The graph displays the available timber volume over a 250-year horizon. In the graph, dark green colours indicate volume that has reached harvest age; light green colours indicate volume younger than harvest age. The top green line denotes the total volume at every year. A line that increases over time indicates that volume is being grown faster than it is being harvested.

14. Try a few revisions to test the impact of increasing the harvest rate. Click off the check box in the lower left corner titled <Auto-Harvest Rate>, enter a higher harvest rate than calculated, say 50% higher in the next box, and click on <Calculate>. Notice the graph; the blue vertical lines represent periods when no timber is available to harvest.

15. Activate the <Constraints> feature by clicking on their check boxes, and then <Calculate>. The yellow vertical lines represent periods when age constraints could not be met, and red vertical lines represent when height constraints could not be met. In these latter cases, timber is available for harvest, but these constraints will not be met.

16. To determine the harvest that will meet all constraints, click on <Auto-Harvest Rate> and then <Calculate>.

17. Save your work and then close out the **Calculations** screen. Return to the **Main** screen.

18. Review the basic settings and optional colours in WOODLOT by going to the **Settings screen** from the **Main** screen. Settings can be changed at any time. Close this window and return to the **Main** screen".

19. To review the report that can be generated, first ensure you have run a calculation, and then click on the **Report** button from the **Main** screen. The report will be displayed for you. If you want to view, modify, or print the report, you can do so on the **Report** screen, or by going to one of the programs listed on this screen.

20. To save your work for another time, return to the **Main** screen and click on <*File*> and <*SaveAs*>. Enter your filename, and save your file.

21. You can return to any one of four last files used by selecting the file you wish from the list provided under <*File*> in the **Main** screen.

5.3 Key Features of WOODLOT

The following are some key pointers about how WOODLOT works, which are described in detail in the following sections:

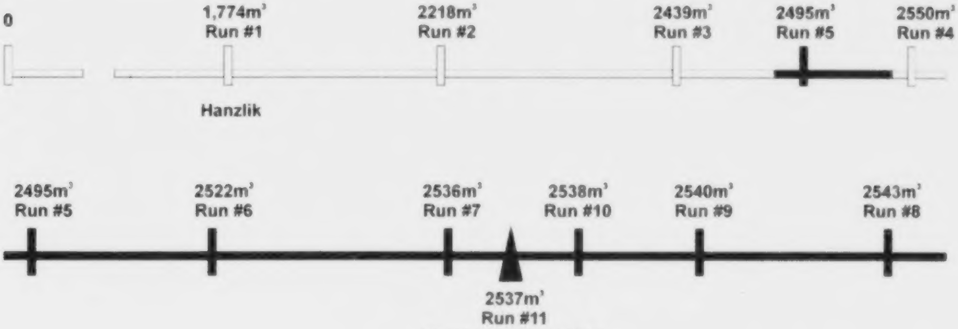
1.	Forest Polygons	WOODLOT uses the data for individual forest cover "polygons" in all calculations. A polygon is denoted on a BC Ministry of Forests forest cover map by dashed lines, and typically ranges in size from 0.5 ha to 40ha. Each polygon has a reference number and forest cover code, which is referenced back to a database describing its attributes (e.g. F(Pl) 841-20). You enter this data either manually or using a data entry file (CSV file) in the **Polygon Data** Screen. Up to 400 forest polygons or 1000 ha may be analyzed in WOODLOT.
2.	Timber Yields	The volume of timber is derived from either of two yield estimation models developed by the BC Ministry of Forests: • Variable Density Yield Projection (VDYP) • The Table Interpolation Program for Stand Yields (TIPSY) The volume predicted can be adjusted to match local conditions. Timber yields are calculated in the **Polygon Data** screen. You may review the timber yield information (table and graphical) in the **Polygon Data** screen, <View Existing/Future>.
3.	Silviculture Systems	You have two choices for silviculture systems: • Clearcut, which assumes 100% removal in the first pass. • Partial Cut, which assumes a portion is removed in the first pass, and you return for periodic removals of ingrowth over time. These are selected in the **Polygon Data** screen, and also can be adjusted in the **Summary** screen.
4.	Harvest Ages	A preliminary harvest age is selected by WOODLOT for you based on the older of the culmination age (the age at which the trees are growing their fastest, on average), or the age at which the minimum harvest parameters are met. Harvest ages that have been selected by WOODLOT are denoted with square brackets around them (e.g. [120] means that WOODLOT selected a harvest age of 120 yrs since it has met both minimum harvest parameters and the culmination age.

		You may adjust this age yourself by typing over it.
5.	Harvest Parameters	You can select the minimum harvest age, minimum volume per hectare, minimum diameter and minimum harvest age limits. These establish the *earliest possible age* when a polygon may be harvested. These are set globally for your woodlot in the **Summary** or **Polygon Data** screen; they can be adjusted individually by polygon in the **Polygon Data** screen in the View Yields window for the specific polygon.
6.	Harvest Order	You select the order in which to harvest your woodlot. You can use features in the **Calculation** screen to adjust the harvest order (Sort Order).
7.	Constraints	You can set spatial and temporal constraints to simulate the requirements for retaining a specified proportion of your woodlot in certain age or height characteristics; for example, to ensure that you retain enough area of old growth or winter range.
8.	Planning Period and Sustainable Harvest Rate	The normal planning period is 250 years. The sustainable harvest rate is calculated for a continuous harvest flow over this period (flat line or non-declining even flow) as required by BC Ministry of Forests policy.

5.4 How WOODLOT Calculates the Harvest Rate

Once you have entered your forest polygons, calculated their timber yields, entered assumptions and constraints, and established a harvest order, an iterative calculation process is used by WOODLOT to arrive at a sustainable harvest rate. This iterative process simulates the operational harvest on a woodlot by placing priority on the harvest order you select in the first pass; on the second and subsequent passes, it chooses the most harvestable stand that meets your harvesting criteria.

WOODLOT starts with an initial harvest rate (this value could be any number but WOODLOT uses the Hanzlik rate initially), then cycles through harvest calculations, adjusting it up or down until it reaches a sustainable harvest rate as noted below. If the harvest cannot be sustained, the rate is decreased; if it completes, the harvest rate is increased. The amount of change equals half the previous decrease or increase (except if the first rate passes it will increase by the initial rate until it fails.) until a rate is met within 1 m³.



Sustainable Rate

WOODLOT chooses a polygon to harvest in order of importance as follows:

A. On the first rotation:

   I. Harvesting occurs in the order that you select,

   II. Polygons that are not ready to harvest (too young) will be put in a queue until they meet minimum harvest age criteria that you have set, then will be harvested at the first opportunity, and prior to other uncut polygons in the original sort order.

   III. The second pass re-harvest on partial cut polygons will occur as soon as they meet their reentry requirements, which may occur before the original list of polygons have all been harvested in a first pass.

B. On subsequent rotations:

   I WOODLOT will re-harvest clearcut polygons as soon as they reach their desired harvest ages.

   II Partial cut polygons will always be re-harvested first as soon as they meet their reentry requirements.

5.5 Summary of Basic Steps to Use WOODLOT

The following basic steps are used to calculate a harvest rate in WOODLOT:

1. Start up WOODLOT
   Double clicking the icon, or selecting from the Start/Programs selection pick. The **About** screen will appear briefly, and the **Main** screen will appear.

2. Start a new project or open an existing project file.
   To start a new project, in the **Main** screen, click on File New. Once you create a .lot file, you may reuse and update this file whenever you wish. To use an existing project file, simply load up the file from the **Main** screen, under File Open.

3. Project Information
   Enter your basic project information in the **Project** screen.

4. Inventory Information
   Enter your timber inventory data in the **Polygon Data** Screen.

5. Timber Management Assumptions
   Enter your timber management assumptions (silviculture system, planting, fertilization, genetic gain, etc.) in the **Polygon Data** Screen. Set or adjust harvest ages in the **Polygon Data** Screen (once the yields have been compiled.)

6. Timber Yields
   Compile your timber yield information for the woodlot in the **Polygon Data** Screen (under Yield, Calculate Yields)

7. Summary information
   Check over your data in the **Summary** Screen, and adjust some variables if you wish.

8. Harvest (AAC) Calculations
   Set your harvest order and timber management constraints in the **Calculations** Screen. Run your harvest calculations in the **Calculations** Screen (click Calculate button.)

9. Check your results.
   Use your judgment to determine if the answer seems logical and workable for your woodlot. *As a rule of thumb, the harvest rate should be in the order of the (net area)*(average mai).*

   Test the harvest rate and sensitivity of assumptions by running a few alternate scenarios in the **Calculations** Screen.

10. Report
    Generate a report in the Report Screen. Edit and print as required. Any assumptions or explanations of how variables were selected must be included in the report to the district manager.

11. Save your work
    Save your file regularly during the loading of information and calculations, and at the end of your work.

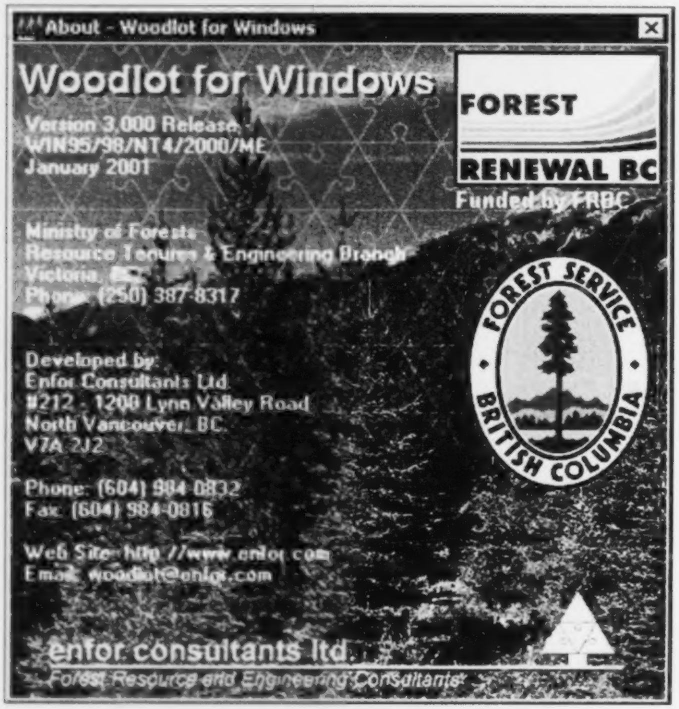
12. Exit from WOODLOT
    From the **Main** Screen, click Exit Program. Don't forget to save your project file!

6.0 About Screen

Once you have started WOODLOT (by double clicking the WOODLOT icon or the executable file in Explorer), the **About** screen will be displayed for a few seconds before reverting to the **Main** screen. It can also be displayed by clicking the **About** button on the **Main** screen.

This screen shows important user information about the version of WOODLOT, credits, and contact information that may be required for product support.

To close this screen, simply click anywhere on it.



Woodlot for Windows

Version 3.000 Release
WIN95/98/NT4/2000/ME
January 2001

Ministry of Forests
Resource Tenures & Engineering Branch
Victoria, BC
Phone: (250) 387-8317

Developed by:
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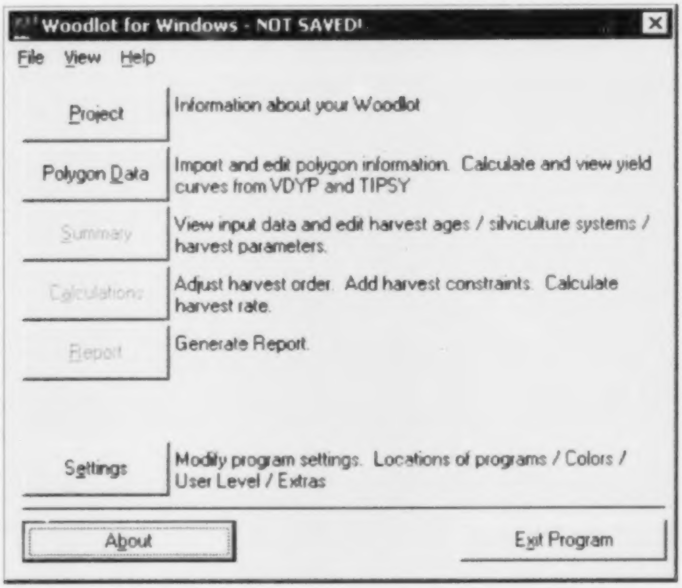
Email: woodlot@enfor.com

enfor consultants ltd.
Forest Resource and Engineering Consultants

7.0 Main Screen

The following section describes the functionality of the Main screen. The **Main** screen is the central screen used to move between the other key areas and screens in WOODLOT.

The active file name is displayed at the top of the windows in the blue box, as in all other windows applications. If no file has been loaded, opened or saved the title will display 'NOT SAVED!'



Woodlot for Windows - NOT SAVED!

Project	Information about your Woodlot
Polygon Data	Import and edit polygon information. Calculate and view yield curves from VDYP and TIPSY
Summary	View input data and edit harvest ages / silviculture systems / harvest parameters.
Calculations	Adjust harvest order. Add harvest constraints. Calculate harvest rate.
Report	Generate Report.
Settings	Modify program settings. Locations of programs / Colors / User Level / Extras

7.1 Main Screen Buttons

Clicking on a button will load the appropriate functional area in WOODLOT. When exiting from that section, the **Main** screen will appear again.

When you first open the program, some of the main functions are disabled because no data is currently loaded. These buttons are shown with a gray description, referred to as 'grayed out'. <Summary> and <Calculations> will be enabled when polygon data has been entered or loaded into WOODLOT. <Report> will stay grayed out until a calculation has been run.

Please see the section *"7.4 View Menu"* for a full description of each button.

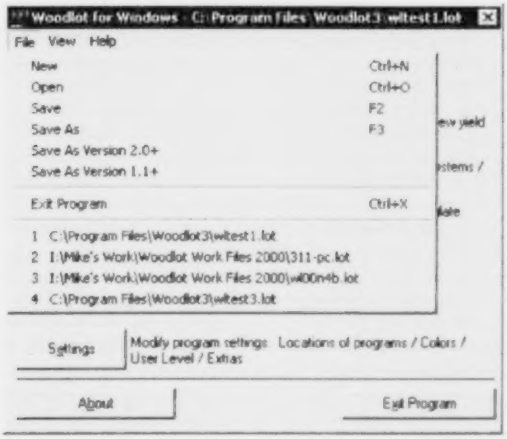
7.2 Main Menu Bar

The main menu bar has three separate menu items:

- **File**
- **View**
- **Help**

7.3 File Menu

The file menu from the main screen is shown below. Note that the loaded filename is displayed in the title bar of the main window.


Woodlot for Windows - C:\Program Files\Woodlot3\wltest1.lot
File
View
Help
New Ctrl+N
Open Ctrl+O
Save F2
Save As F3
Save As Version 2.0+
Save As Version 1.1+
Exit Program Ctrl+X
1 C:\Program Files\Woodlot3\wltest1.lot
2 I:\Mike's Work\Woodlot Work Files 2000\311-pc.lot
3 I:\Mike's Work\Woodlot Work Files 2000\w400n4b.lot
4 C:\Program Files\Woodlot3\wltest3.lot
Settings
About
Exit Program

Modify program settings: Locations of programs / Colors / User Level / Extras

7.3.1 New

Ctrl N Shortcut Key

Click on this function if you wish to create a new LOT file. It is only required to be used if you are currently running a LOT file.

This function does not have to be used before opening another LOT file.

7.3.2 Open

Ctrl O Shortcut Key

Click on this function to open any woodlot file, from WOODLOT versions 1.0 to 3.1.

A warning message will appear if the program used to create the file in is a different version than the version opening it. Press OK if this appears, then check your polygons to update any fields you require.

7.3.3 Save

F2 Shortcut Key

Saves the current file with the current file name. If there is not a current file name specified, the "save as" dialog box will appear asking for the new file name.

Save As

F3 Shortcut Key

Saves the current file with a new filename and/or a new location. The file will be saved in the current version's format.

7.3.4 Save As Version 2.0+ or Version 1.1+

Saves the current file in a format compatible with WOODLOT 1.10 to 2.20. The data that is not relevant to the older version of WOODLOT will be removed from this new file permanently. The new file should be saved with a new name.

This feature was added to allow users to compare results from previous runs. Refer also to section *"2.5 Comparing Files Between Versions of WOODLOT"*

7.3.5 Exit Program

Ctrl X Shortcut Key

Click on this button to close WOODLOT. This will display a warning message before allowing the user to exit WOODLOT.

7.3.6 Open a Recently Loaded File

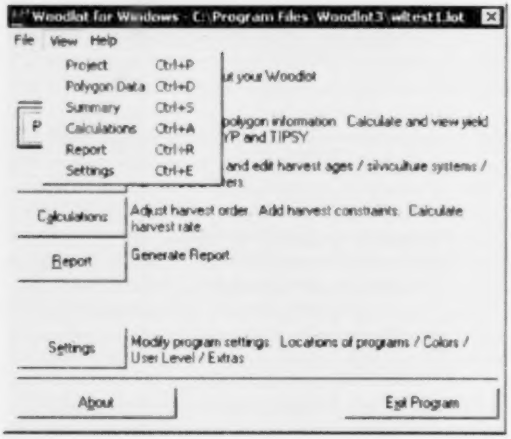
Ctrl 1, 2, 3 or 4 Shortcut Keys

WOODLOT will store up to four file names of the files that have been previously opened. To open the file that was worked on last, simply, click on the filename next to '1'. Filename and location are automatically put in order on this list when a file is either opened or saved.

Refer to the sample screen under File Menu above. In this case, you could load up any of the four woodlot project work files.

7.4 View Menu

The view menu from the main screen is shown below. This is an alternate way to open main screens in WOODLOT.


Woodlot for Windows - C:\Program Files\Woodlot3\wltest1.lot
File
View
Help
Project Ctrl+P
Polygon Data Ctrl+D
Summary Ctrl+S
Calculations Ctrl+A
Report Ctrl+R
Settings Ctrl+E
P
ut your Woodlot
polygon information. Calculate and view yield
YP and TIPSY
and edit harvest ages / silviculture systems /
ers
Calculations
Report
Settings
About
Exit Program

Adjust harvest order. Add harvest constraints. Calculate harvest rate

Generate Report

Modify program settings. Locations of programs / Colors / User Level / Extras

7.4.1 Project

Ctrl P Shortcut Key

The Project screen is used to enter general information about the project. Please see section *"8.0 Project Screen"* for more information.

7.4.2 Polygon Data

Ctrl D Shortcut Key

The Polygon Data screen is used to enter forest polygon inventory specific data, VDYP data, and TIPSY data. This is also where you will calculate yields and view generated yield tables. Please see section *"9.0 Polygon Data Screen"* for more information.

7.4.3 Summary

Ctrl S Shortcut Key

The Summary screen is used to view general information about all polygons, setup harvest ages, silviculture systems, harvest parameters, and show averages for all polygons. Please see section *"11.0 Summary"* for more information.

7.4.4 Calculations

Ctrl A Shortcut Key

The Calculations screen is used to select harvest order, constraints, generate a non-declining even flow harvest rate, and graph the results. Please see section *"12.0 Calculation"* for more information.

7.4.5 Report

Ctrl R Shortcut Key

The report screen is used to generate a report once a calculation has been run. The report can then be edited in any word processor, text editor or spreadsheet. Please see section *"14.0 Report Writer"* for more information.

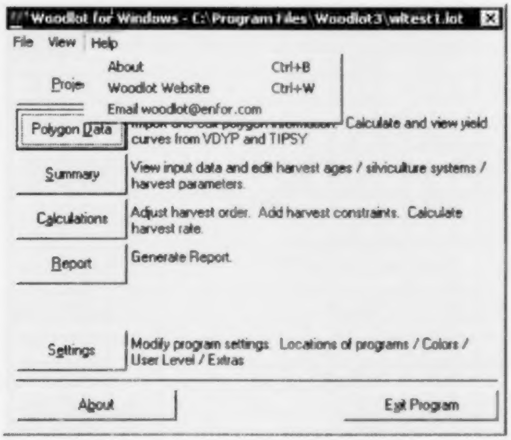
7.4.6 Settings

Ctrl E Shortcut Key

The Settings screen allows customizing a number of features in WOODLOT. It shows the location of external program, extra features and graphing colors to be customized. Please see section *"15.0 Settings Screen"* for more information.

7.5 Help Menu

Selecting the Help pick will allow you to access the About screen, to check the website for information on WOODLOT, or to send an email to Enfor if you have any questions.


Woodlot for Windows - C:\Program Files\Woodlot3\wltest1.lot
File
View
Help
About Ctrl+B
Woodlot Website Ctrl+W
Email woodlot@enfor.com
Proje
Polygon Data
Summary
Calculations
Report
Settings
About
Exit Program

Calculate and view yield curves from VDYP and TIPSY

View input data and edit harvest ages / silviculture systems / harvest parameters.

Adjust harvest order. Add harvest constraints. Calculate harvest rate.

Generate Report.

Modify program settings. Locations of programs / Colors / User Level / Extras

7.5.1 About

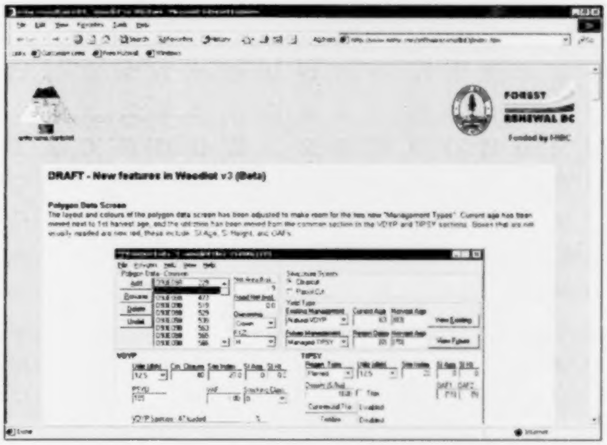
Ctrl B Shortcut Key

The About screen shows version information and contact numbers. Please see section *"6.0 About Screen"* for more information.

7.5.2 *Woodlot Website*

Ctrl W Shortcut Key

The Woodlot Website feature will link you to Internet and website on **www.enfor.com**. You can view updates and other information about woodlot from this website.



DRAFT - New features in Woodlot v3 (Beta)

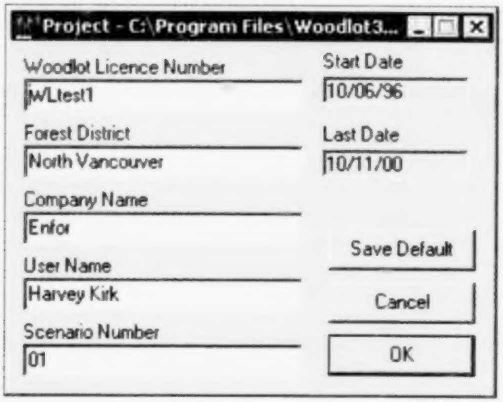
Polygon Data Screen

7.5.3 *Email woodlot@enfor.com*

Clicking on the email feature will automatically set up and activate your system to allow you to send an email to the woodlot support line.

8.0 Project Screen

Data stored in the Project screen is used to help identify the LOT file and your project.



Woodlot Licence Number: WLtest1
Start Date: 10/06/96
Forest District: North Vancouver
Last Date: 10/11/00
Company Name: Enfor
User Name: Harvey Kirk
Scenario Number: 01

8.1 Project Screen Buttons

Data for the **Project** screen is manually entered in by the user at the start of a project. Information can be modified at any time and resaved.

8.1.1 Save Default

Pressing <**Save Default**> will save the project screen information to WOODLOT as a default set of information. When a new LOT file is created, the project information will be set to this by default.

The defaults are saved in the WOODLOT.INI file stored in the WOODLOT root directory.

8.1.2 Cancel

Shortcut Key

Pressing <**Cancel**> will close the **Project** screen window, which will not save any changes that have been made to the project information.

8.1.3 OK

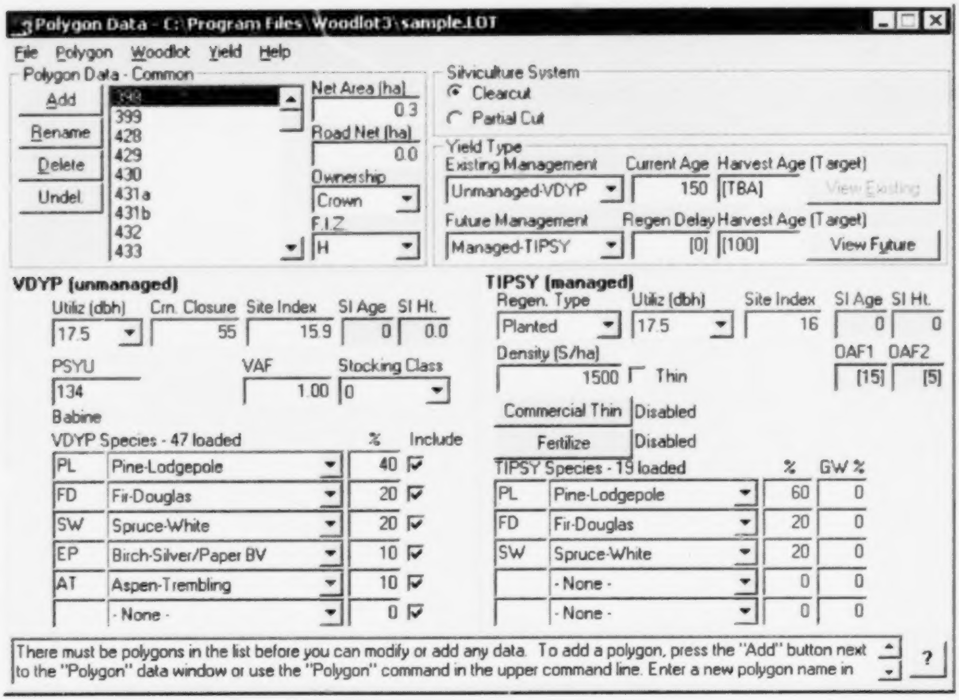
Enter Shortcut Key

Pressing <**OK**> will close the project screen window and keep any changes that have been made to the project information in the active program memory, but not the stored file. You must also <Save> the LOT file in the **Main** screen to save the project information to the LOT file.

9.0 Polygon Data Screen

The **Polygon Data** screen is used to add and delete forest polygons, to enter all the basic inventory data, to include management information and generate timber yield information specific to each forest polygon. Your final calculations are only as good as your input data, so you should spend an appropriate amount of time collecting and ensuring this screen is filled correctly.

The **Polygon Data** screen displays all the data for each individual forest polygon. Forest polygon data can be entered manually on screen or using import functions described below. When all data has been entered, yield tables can be generated and viewed, and harvest ages can be set.



Polygon Data - Common
398
399
428
429
430
431a
431b
432
433

Net Area (ha): 0.3
Road Net (ha): 0.0
Ownership: Crown
F.I.Z.: H

Silviculture System
● Clearcut
○ Partial Cut

Yield Type
Existing Management: Unmanaged-VDYP
Current Age: 150
Harvest Age (Target): [TBA]
Future Management: Managed-TIPSY
Regen Delay: [0]
Harvest Age (Target): [100]

VDYP (unmanaged)
Utiliz (dbh): 17.5
Crn. Closure: 55
Site Index: 15.9
SI Age: 0
SI Ht.: 0.0
PSYU: 134
Babine
VAF: 1.00
Stocking Class: 0

VDYP Species - 47 loaded

		%	Include
PL	Pine-Lodgepole	40	☑
FD	Fir-Douglas	20	☑
SW	Spruce-White	20	☑
EP	Birch-Silver/Paper BV	10	☑
AT	Aspen-Trembling	10	☑
	- None -	0	☑

TIPSY (managed)
Regen. Type: Planted
Utiliz (dbh): 17.5
Site Index: 16
SI Age: 0
SI Ht.: 0
Density (S/ha): 1500
☐ Thin
DAF1: [15]
DAF2: [5]
Commercial Thin: Disabled
Fertilize: Disabled

TIPSY Species - 19 loaded

		%	GW %
PL	Pine-Lodgepole	60	0
FD	Fir-Douglas	20	0
SW	Spruce-White	20	0
	- None -	0	0
	- None -	0	0

There must be polygons in the list before you can modify or add any data. To add a polygon, press the "Add" button next to the "Polygon" data window or use the "Polygon" command in the upper command line. Enter a new polygon name in

The **Polygon Data** screen is split into four functional sections, plus the Help screen information at the bottom of the window.

- Polygon Data – Common variables
- Silviculture System variables
- Yield Type variables
- Yield screens variables. Up to two of the following may be displayed at a time:
  - Unmanaged - VDYP data
  - Managed - TIPSY data
  - Non-commercial
  - NSR

The **Polygon Data** screen has a menu bar with <File>, <Polygon>, <Woodlot>, <Yield> and <Help>, which you can use to access the above functions, as well as to compile timber yield data from the yield programs.

There are many error checks in WOODLOT 3.1. If you incorrectly enter data, or the numbers are out of range for the variable, you will be prompted. You will also be prompted to determine if you wish to keep all the changes, you have made.

Help information for each data field is displayed at the bottom of the **Polygon Data** screen, and is activated by clicking on any data field.

Once you have entered your data, you will have to calculate yields as described below in section *"9.5 Calculating Yields, Updating and Viewing Yields"* for all polygons to update yields results, and before you can undertake harvest calculations. Harvest calculations occur in the **Calculations** screen, refer to section *"12.0 Calculation".*

9.1 Adding and Deleting Polygons

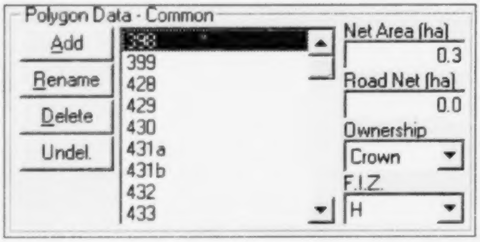
You add, delete, rename and undelete forest polygons directly on the **Polygon Data** screen in either of three ways:

1. individual polygons directly on the **Polygon Data** screen
2. individual polygons from the <Polygon> menu
3. all polygons for your woodlot using the Import feature from the <File> menu

Refer to section *"9.7 Polygon Data – Common"* for additional details on the Polygon Data – Common section, and variables used.

9.1.1 Adding Polygons Directly

All of the adding and deleting functions are accessible from buttons on the <Polygon Data-Common> screen.



Net Area (ha) 0.3
Road Net (ha) 0.0
Ownership Crown
F.I.Z. H

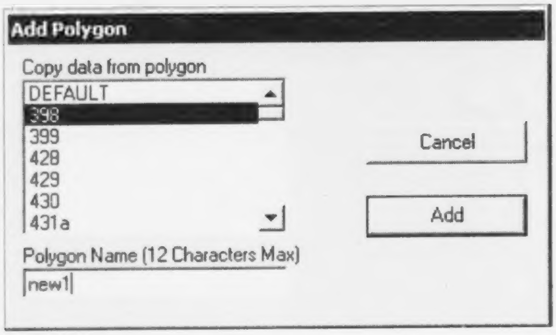
9.1.1.1 Add Polygon

Ctrl A Shortcut Key.

If you wish to manually add a polygon, click on the Add Polygon button from the **Polygon Data** screen, or from the <Polygon> menu.

If you click/select Add Polygon, the following window will appear. Enter a new Polygon Name. The Add Polygon feature will copy data from the polygon that you have highlighted as a time saving feature. Press **[OK]** to add the new polygon. If the polygon to be added already exists or you have not entered a polygon number, WOODLOT will prompt you with a message and stay on the Add Polygon screen.

Once you have added the polygon, you should return to the **Polygon Data** screen to modify the forest cover information; (WOODLOT will have entered all the information from the polygon you copied.)

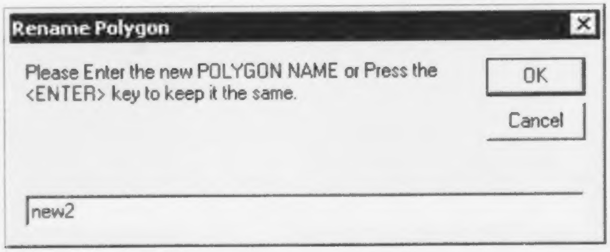


Polygon Name (12 Characters Max): new1

9.1.1.2 Rename Polygon

Ctrl R Shortcut Key

Select the polygon to be renamed and click **[Rename]**. Two windows will appear. The first will ask for a new mapsheet name. Enter a new polygon name, press **[OK]** to save it.



Please Enter the new POLYGON NAME or Press the <ENTER> key to keep it the same.

new2

9.1.1.3 Delete Polygon

Ctrl D Shortcut Key

To delete a polygon, select the polygon and then press **[Delete]**.

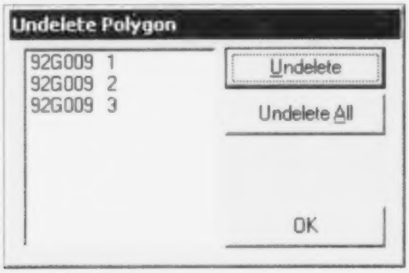
In WOODLOT, polygons are not ever completely deleted, they remain in the file unless you purge them when you are prompted when saving the file. This allows deleted polygons to be undeleted at any time.

9.1.1.4 Undelete Polygon

Ctrl U Shortcut Key

Polygons can be undeleted at any time. A list will show which polygons have been deleted. Select the polygon to undelete, press **[Undelete]** and then press **[OK]** when done. To undelete all polygons, click **[Undelete All]**. The undelete feature will only work for polygons that were deleted in version 2.0 or newer of WOODLOT.

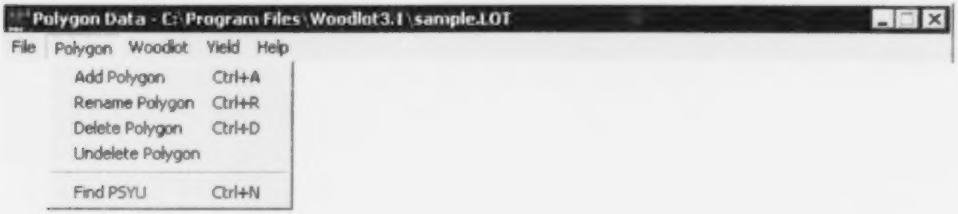
Polygons will return to the location in the Mapsheet Polygon list on the Polygon Data screen where they were deleted.



92G009 1
92G009 2
92G009 3

9.1.2 Adding Polygons from the Menu

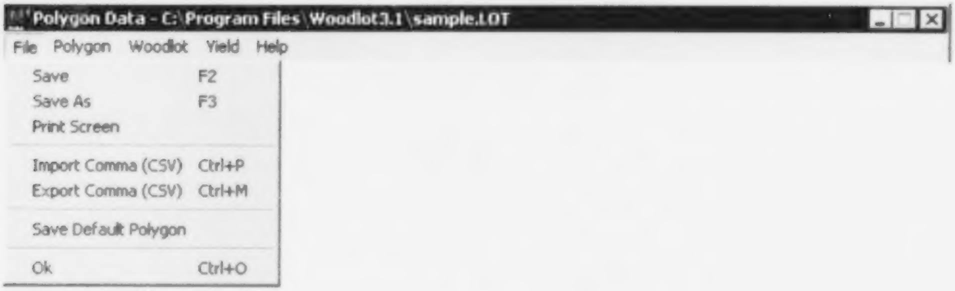
Polygons may also be added, renamed, deleted, and undeleted from the <Polygon> menu:


Polygon Data - C:\Program Files\Woodlot3.1\sample.LOT
File
Polygon
Woodlot
Yield
Help
Add Polygon Ctrl+A
Rename Polygon Ctrl+R
Delete Polygon Ctrl+D
Undelete Polygon
Find PSYU Ctrl+N

This will activate the same procedure for adding and deleting polygons as described in section "9.1.1 Adding Polygons Directly".

9.2 Saving Data, Importing Data and Exiting from Polygon Data Screen – File Menu

You can save your data using the two save features. If you exit the screen by closing the screen or clicking on <OK>, your data will be saved in memory only, and will be lost if you close WOODLOT.


Polygon Data - C:\Program Files\Woodlot3.1\sample.LOT
File
Polygon
Woodlot
Yield
Help
Save F2
Save As F3
Print Screen
Import Comma (CSV) Ctrl+P
Export Comma (CSV) Ctrl+M
Save Default Polygon
Ok Ctrl+O

9.2.1.1 Save

F2 Shortcut Key

Saves the current file with the current file name. If there is not a current file name the save as dialog box will appear asking for the new file name.

9.2.1.2 SaveAs

F3 Shortcut Key

Saves the current file with a new filename and/or a new location. The file will be saved in the current version's format.

9.2.1.3 Ok

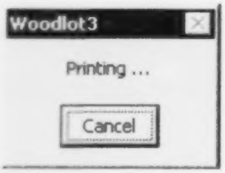
Ctrl O Shortcut Key

Clicking on Ok will close the **Polygon Data** window and return you to the **Main** screen. Clicking on the X in the top right corner will also close out from this window and return you to the Main screen.

Remember to save your information before you leave WOODLOT!

9.2.1.4 Print Screen feature

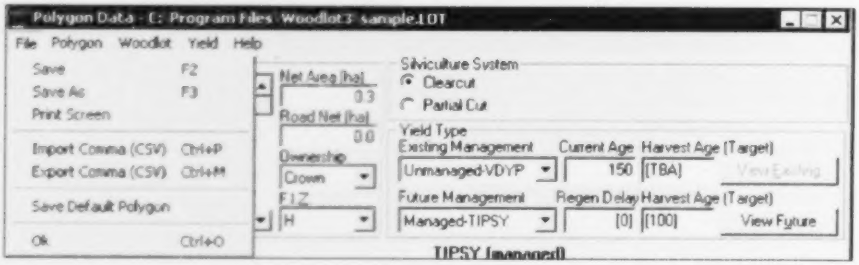
Click this feature if you wish to make a print of the screen that you are working on. The following message box appears, an impression of the screen is made and is automatically sent to your printer. This is useful if you wish to make a copy of certain screens for a reference.


Woodlot3

Printing ...

9.3 Importing and Exporting Polygon Data from a File

Data may be import or exported to WOODLOT using the features under the <File> menu.


Polygon Data - C:\Program Files\Woodlot3\sample.LOT

Net Area (ha) 0.3

Road Net (ha) 0.0

Ownership Crown

F.I.Z. H

Silviculture System: ● Clearcut ○ Partial Cut

Yield Type

Existing Management: Unmanaged-VDYP; Current Age: 150; Harvest Age (Target): [TBA]

Future Management: Managed-TIPSY; Regen Delay: [0]; Harvest Age (Target): [100]

TIPSY (managed)

9.3.1 *Importing Data*

You may load your data into WOODLOT either by hand or by importing a data file. This section describes importing a data file directly into WOODLOT using the <Import Comma (CSV)> feature.

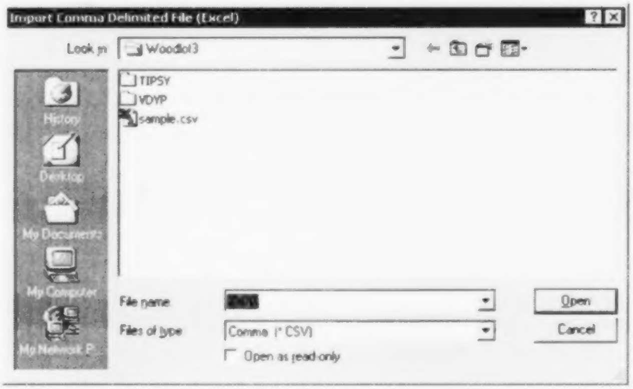
1. Set up your CSV file (or your initial spreadsheet file) so that the first row (line) contains variable names as listed in “”. The names must be exact or they will not be read by WOODLOT. Names are not case sensitive.
2. Enter your data into the columns of your CSV file. Each row will correspond to each polygon.

3. Ensure that each row has a polygon name (or may have a mapsheet and polygon number) specified. WOODLOT requires this to save polygon information.
4. Columns do not have to be in any specific order, but must use WOODLOT variables to be read into WOODLOT. All other information used will be ignored by WOODLOT.
5. Any blank information will result in using the data from the default polygon stored with WOODLOT.
6. Important Note: Some variables cannot be entered with the CSV file, such as the new TIPSY features for fertilization, genetic worth or commercial thinning. These must be entered manually by polygon in the Polygon Data screen.
7. Review the data in each polygon to make sure that you have entered it correctly, and that you have manually included the few variables under TIPSY that you require.

9.3.1.1 Import Comma (CSV)

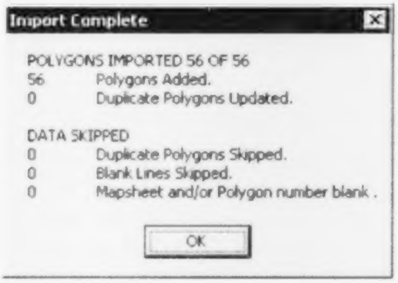
Ctrl P Shortcut Key

To import data from a CSV file, click Import Comma (CSV). This will bring up a screen to select a CSV file from similar to the following:


Import Comma Delimited File (Excel)
Look in:
Woodlot3
TIPSY
VDYP
sample.csv
History
Desktop
My Documents
My Computer
My Network P...
File name:
Files of type:
Comma (*.CSV)
Open as read-only
Open
Cancel

Load in your CSV from the directory that it is saved in.

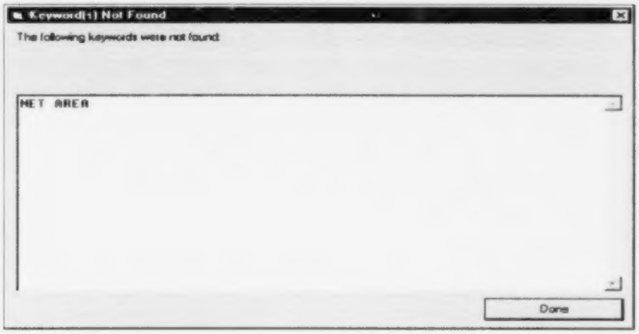
The following window will appear once you have imported your data. WOODLOT 3.1 has been updated to allow polygons that already exist to be updated by importing a CSV file, and to skip duplicate information.


Import Complete

```
POLYGONS IMPORTED 56 OF 56
56      Polygons Added.
0       Duplicate Polygons Updated.

DATA SKIPPED
0       Duplicate Polygons Skipped.
0       Blank Lines Skipped.
0       Mapsheet and/or Polygon number blank .
```

OK

Note: any columns with header names not listed in Appendix 8 "Variables Used in WOODLOT" will be ignored by WOODLOT. When an important variable is not found, the following screen will appear. If a keyword shows up in the window that was not meant to be skipped, check it's spelling, correct as necessary and re-import the corrected CSV file.

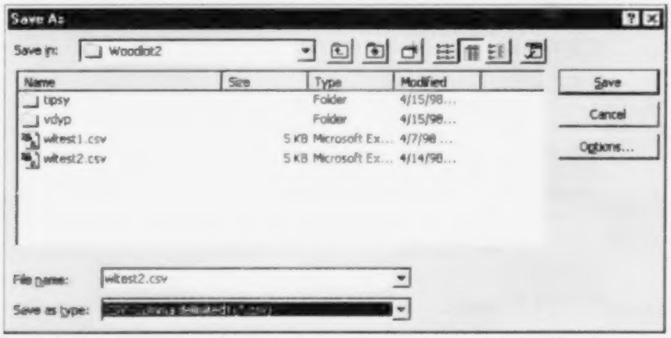

Keyword(s) Not Found

The following keywords were not found:

NET AREA

If you do not correct this item in your CSV file, it will be overlooked and WOODLOT will include its default value (from the default polygon). This will not likely be a correct entry for your woodlot and will require you to manually revise in the Polygon Data screen.
The following are hints to help you create a CSV file. Most spreadsheet programs can be saved to a CSV file. However, you cannot import a file directly in from Excel or other spreadsheets without converting them to a .csv format as described below. The sample used in this manual is derived using Excel 97, although earlier versions of Excel, Lotus 123 or Quattro Pro will work just as well.

To generate a CSV file for use in WOODLOT from Excel, while in Excel, choose <**Save As**> from the <**File**> menu. A window will appear asking for the file name, location and type to save as. Make sure that the <**Save as type**> is set to **CSV (Comma delimited) (*.CSV)** as shown below. It is recommended to also save the file as a **XLS** file, otherwise formulas and formatting will be lost.


Save As

Save in: Woodlot2

Name	Size	Type	Modified
tipsy		Folder	4/15/98...
vdyp		Folder	4/15/98...
wltest1.csv	5 KB	Microsoft Ex...	4/7/98 ...
wltest2.csv	5 KB	Microsoft Ex...	4/14/98...

File name: wltest2.csv

Save as type: CSV (Comma delimited) (*.csv)

For advanced users, values that need to be set to default can be entered as **[ ]** brackets. During import, any values that are expected to be numbers and are not given a numerical value in the CSV file are set to zero, unless the current value can be set from the default polygon.

The following variables can be set to defaults:

Variable Name	Description
PCNEXT	Partial Cut re-entry age
PCPERC	Partial Cut % removal
REGENDELAY	Regeneration Delay
OAF1	TIPSY OAF1
OAF2	TIPSY OAF2
VMINCUTAGE	Min. age for VDYP
VMINCUTDBH	Min. DBH for VDYP
VMINCUTVOL	Min. Volume for VDYP
TMINCUTAGE	Min. age for TIPSY
TMINCUTDBH	Min DBH for TIPSY
TMINCUTVOL	Min. Volume for TIPSY

9.3.1.2 Exporting Data

You may export your data file directly from WOODLOT into a CSV file for use outside WOODLOT as follows.

9.3.1.2.1 Export Comma (CSV)

Ctrl M Shortcut Key

For advanced users, the Export Comma feature allows you to export key variable data from WOODLOT, and is a useful to check your data. Clicking on this feature will create a CSV file and output polygon data variables used, which can be read by most spreadsheet programs. This file can be modified and then re-imported into WOODLOT.

See Appendix 8 for variables that will be displayed. Default values will be show as the current value inside [square brackets]. Some variables will be reported that may not be active in your file; you can check to see if they are active by referring to the column that indicates whether the variable is activated. You should consult your systems administrator or help-line if you have any questions on this feature.

Be aware that the exported variables are in the format required by WOODLOT, and may not be in a user-friendly format.

THE DEFAULT POLYGON

Ctrl D Shortcut Key

A Default Polygon is used in WOODLOT for two key functions:

1. to automatically replace missing polygon data from a file that is being imported, or
2. for the default polygon attributes for use in your woodlot when a new polygon is added, to minimize repetitive entries.

It is recommend that, after installing WOODLOT, you create a default polygon for your location. (WOODLOT comes with a default polygon, though this is relevant only to certain coastal sites.)

To create a new default polygon, go to <**File**>, and select <**Save Default Polygon**>. This will save the data from the current polygon data screen displayed as the data that WOODLOT will use in future applications for the Default Polygon. You may change this at any point using the same routine as above and using the following shortcut keys.

9.4 Finding the FIZ and PSYU for Your Woodlot

Forest Inventory Zones (FIZ) and Public Sustained Yield Units (PSYU) are timber inventory identifiers derived by the BC Ministry of Forests to reduce timber inventory volumes from gross standing volume to net merchantable volumes (i.e. net of decay, waste and breakage). This net volume is used for timber supply analysis.

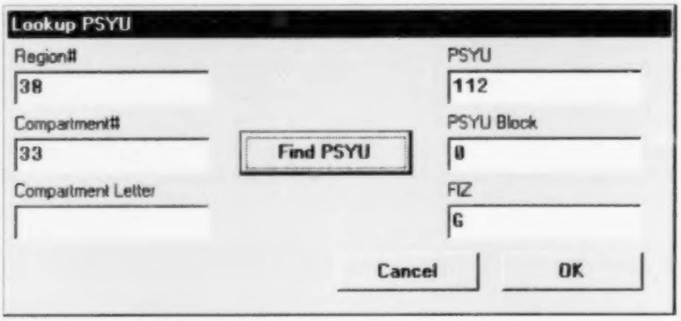
FIZ and PSYU function with VDYP and TIPSY as follows:

Variable	Use in VDYP	Use in TIPSY
FIZ	Reduces volumes from gross to net of decay (i.e. net D)	Reduces volumes from gross to net of decay (i.e. net D)
PSYU	Reduces volumes from gross to net of waste and breakage (i.e. net WB)	Not used

FIZ and PSYU are provided with your forest cover map Forest Inventory Projection (FIP) files. Alternately, you can look up your FIZ and PSYU in Appendix 1 and 2.

If you still cannot identify your FIZ or PSYU, you may use the Find PSYU function if you know the "region and compartment" numbers. To activate this feature, either use the shortcut keys Ctrl N, or under the <Polygon> menu click <Find PSYU>. The following screen will appear. Enter your Region and Compartment numbers from your forest cover map.

The region and compartment numbers are on older forest cover maps, and often are found encircled with an "R" number below or nearby.



Region# 38
Compartment# 33
Compartment Letter
PSYU 112
PSYU Block 0
FIZ G

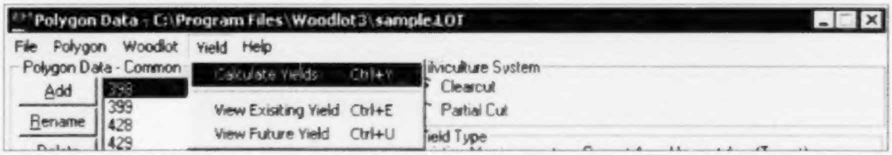
Contact your inventory forester if you have any questions.

9.5 Calculating Yields, Updating and Viewing Yields

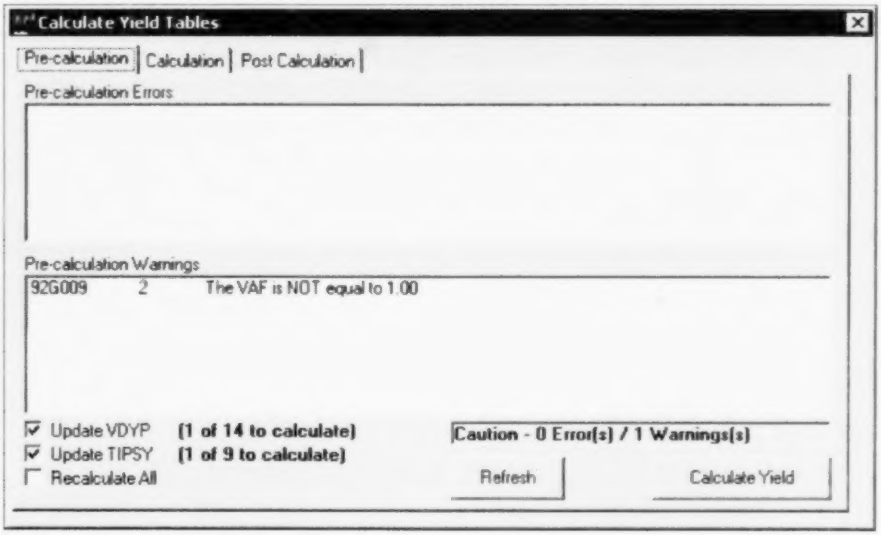
To calculate yields in WOODLOT, select the <Yield> menu item in the **Polygon Data** screen.

Timber yield information must be compiled in WOODLOT for harvest rate calculations. Yields are generated from the timber inventory information you provide in the **Polygon Data** screen using the two BC Ministry of Forests yield programs (batch versions) Variable Density Yield Projection (VDYP) and The Table Interpolation Program for Stand Yields (TIPSY) provided with WOODLOT. Refer to Appendix 5 and 6 for a description of when to use VDYP and TIPSY, or contact your inventory forester.

Click on <Calculate Yield> feature, which will activate the screen for yield calculations as described below, or use the Ctrl Y Shortcut Key


Polygon Data - C:\Program Files\Woodlot3\sample.LOT
File
Polygon
Woodlot
Yield
Help
Polygon Data - Common
Add
Rename
398
399
428
429
Calculate Yields Ctrl+Y
View Existing Yield Ctrl+E
View Future Yield Ctrl+U
ilviculture System
Clearcut
Partial Cut
ield Type

This will activate the following <Calculate Yield Tables> screen:


Calculate Yield Tables
Pre-calculation
Calculation
Post Calculation
Pre-calculation Errors
Pre-calculation Warnings
Refresh
Calculate Yield

92G009 2 The VAF is NOT equal to 1.00

☑ Update VDYP **[1 of 14 to calculate]**
☑ Update TIPSY **[1 of 9 to calculate]**
☐ Recalculate All

Caution - 0 Error(s) / 1 Warnings(s)

Three tab screens are included for viewing information:

• Pre-calculations:	this tab screen is used before you calculate yields to identify any data problems and the number of polygons to calculate yields for.
• Calculations:	displays information while yields are being calculated.
• Post Calculations:	displays any errors in yield calculations you may have had.

These are described in detail below.

9.5.1 Pre-calculations Screen

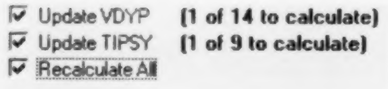
To calculate your yields, click the <Calculate Yield> button. The <Calculate Yields> function is the link between the polygon data that you have entered and two external yield programs, VDYP Batch and BTIPSY. This function is used to derive yield tables for each forest polygon.

This screen displays the following information:

- **Pre-calculation Errors**: this list box shows data errors in your polygons that should be corrected before calculating the yields. Uncorrected errors will result in incorrect yield tables for this polygon, which will not be used in your harvest calculations.

- **Pre-calculation warnings**: this list box shows warnings to prompt you that some polygon data exceeds normal specifications. Running a calculation with these warnings will not result in errors in the yield tables, but will affect the yield information used in subsequent calculations. Items that may be displayed relate to management decisions the user must make, such as whether or not to use a volume adjustment factor (VAF).

- **Three checkboxes**: these indicate the number of polygons that must have yields calculated or updated. This feature was provided as a calculations time saver. It is also a way of indicating whether any new information you have entered will require yield tables to be re-run These refer to:



☑ Update VDYP **(1 of 14 to calculate)**
☑ Update TIPSY **(1 of 9 to calculate)**
☑ Recalculate All

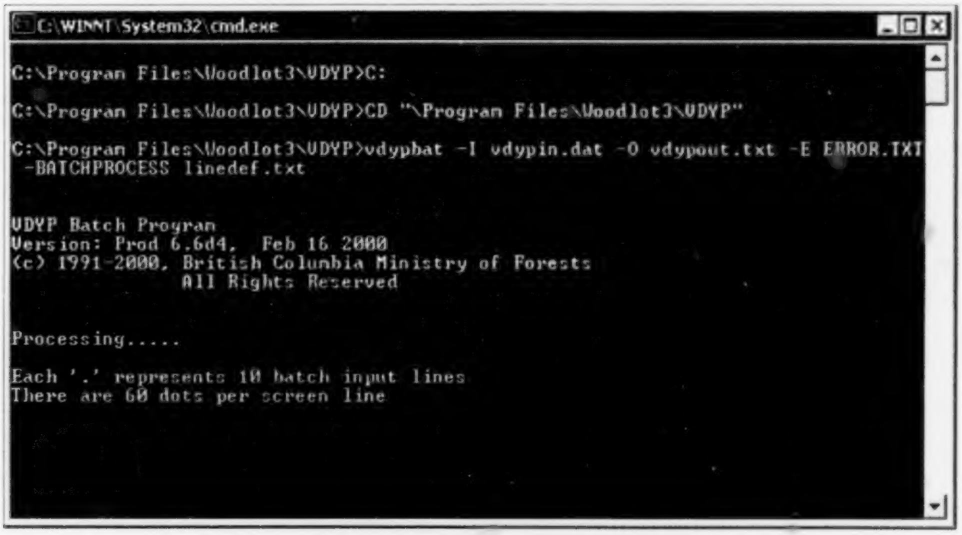
Select on these to either:

- Update VDYP. This number of polygons required for updating is described in the brackets.
- Update TIPSY. This number of polygons required for updating is described in the brackets.
- Recalculate All. This will recalculate all VDYP and TIPSY yields.

9.5.2 Calculation and Post Calculation Screens

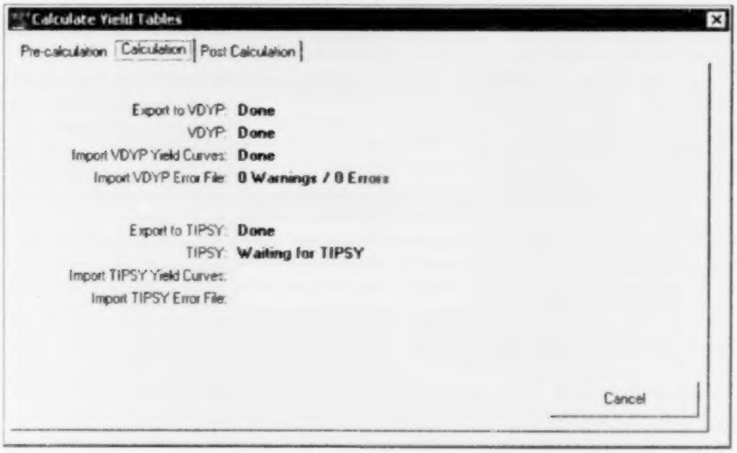
Once you click on the <Calculate Yield> button, WOODLOT sends a command to VDYP and TIPSY to calculate yields and return the information to WOODLOT. The following actions will occur first for VDYP and then for TIPSY:

- a black DOS screen will appear while the VDYP calculations occur. The cursor will be displayed in this screen, blinking. It will take several seconds for this calculation, depending on the speed of your computer. One screen dot is displayed for each 10 VDYP polygons.



```
C:\Program Files\Woodlot3\VDYP>C:

C:\Program Files\Woodlot3\VDYP>CD "\Program Files\Woodlot3\VDYP"

C:\Program Files\Woodlot3\VDYP>vdypbat -I vdypin.dat -O vdypout.txt -E ERROR.TXT
 -BATCHPROCESS linedef.txt


VDYP Batch Program
Version: Prod 6.6d4,  Feb 16 2000
(c) 1991-2000, British Columbia Ministry of Forests
              All Rights Reserved


Processing.....

Each '.' represents 10 batch input lines
There are 60 dots per screen line
```

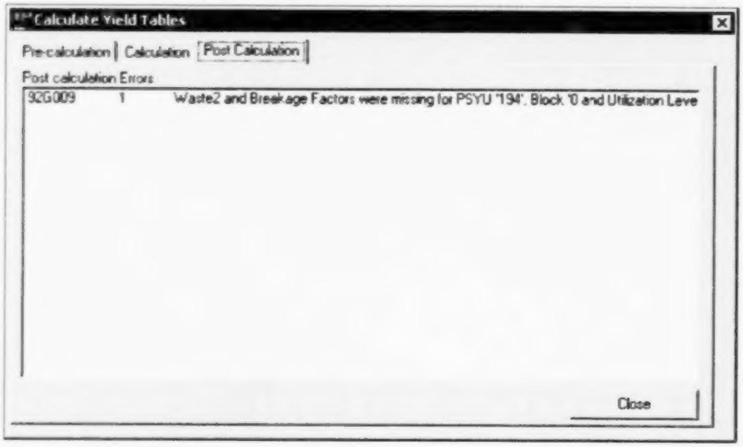
- Once compiled, the VDYP yield information will be imported into WOODLOT and a windows screen will appear briefly to show the import function happening.



Export to VDYP: **Done**
VDYP: **Done**
Import VDYP Yield Curves: **Done**
Import VDYP Error File: **0 Warnings / 0 Errors**

Export to TIPSY: **Done**
TIPSY: **Waiting for TIPSY**
Import TIPSY Yield Curves:
Import TIPSY Error File:

- The same calculation process will immediately restart for those polygons selected for TIPSY yields. Because of the speed of calculations in TIPSY, it will only take a split second to compile yield information, depending on the speed of your computer.
- Just as for VDYP, once compiled, the TIPSY yield information will be imported into WOODLOT and a windows screen will appear briefly to show the import function happening.
- Should an error occur, VDYP and TIPSY will generate an error file. A message will be displayed in the Post Calculation screen as shown below.



```
92G009          1          Waste2 and Breakage Factors were missing for PSYU '194', Block '0 and Utilization Leve
```

In the above example, if you do not provide a PSYU number while entering VDYP data, VDYP will 'self correct' this gap and will use the default PSYU (provided internally with it for the FIZ zone) to carry out the yield calculations. The resulting yields will be close, but not correct, and these volumes will be used for harvest rate calculations. You should ensure that you correct any yield calculation errors.

9.5.3 View Existing Yield

Ctrl E Shortcut Key

The View Existing Yield function will open a window that displays all the **output data** generated by either VDYP or TIPSY for the first rotation. See section *"10.0 Yield Table"* for more information.

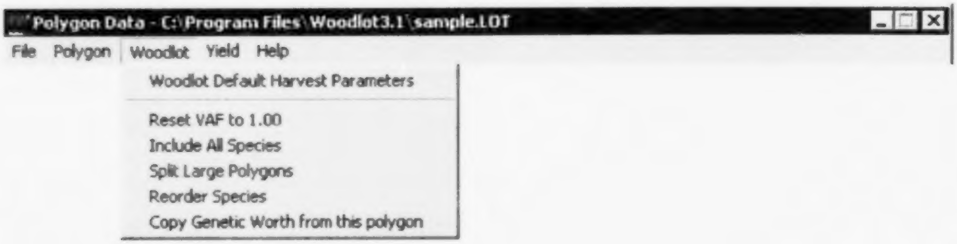
9.5.4 View Future Yield

Ctrl U Shortcut Key

View Future Yield function will open a window that displays all the **output data** generated by either VDYP or TIPSY for all subsequent rotations. See section *"10.0 Yield Table"* for more information.

9.6 Woodlot Menu

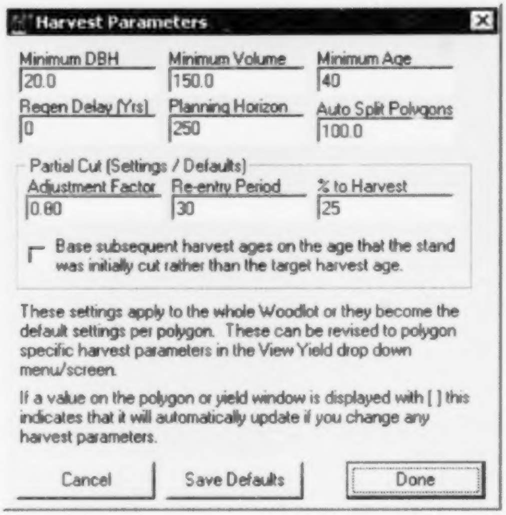
The Woodlot menu contains a list of features that affect all polygons in the Woodlot.


Polygon Data - C:\Program Files\Woodlot3.1\sample.LOT
File
Polygon
Woodlot
Yield
Help
Woodlot Default Harvest Parameters
Reset VAF to 1.00
Include All Species
Split Large Polygons
Reorder Species
Copy Genetic Worth from this polygon

9.6.1 Woodlot Default Harvest Parameters

Default harvest parameters are used to set the earliest allowable harvest ages for your woodlot. These are based on minimum diameter (dbh), volume or age. These can be set either for your entire woodlot, or individually for each polygon.

To set these for the entire woodlot, in **Polygon Data**, click the Woodlot menu. Make the change you require in the boxes, then click Done.


Harvest Parameters

Minimum DBH: 20.0
Minimum Volume: 150.0
Minimum Age: 40
Regen Delay (Yrs): 0
Planning Horizon: 250
Auto Split Polygons: 100.0

Partial Cut (Settings / Defaults)
Adjustment Factor: 0.80
Re-entry Period: 30
% to Harvest: 25

☐ Base subsequent harvest ages on the age that the stand was initially cut rather than the target harvest age.

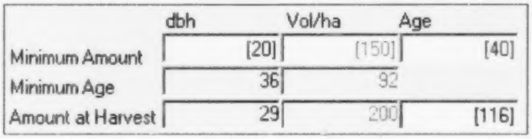
These settings apply to the whole Woodlot or they become the default settings per polygon. These can be revised to polygon specific harvest parameters in the View Yield drop down menu/screen.

If a value on the polygon or yield window is displayed with [ ] this indicates that it will automatically update if you change any harvest parameters.

Cancel
Save Defaults
Done

This feature can also be accessed from the **Summary** screen. See section *"11.2 Harvest Parameters"* for more information.

To set these individually by polygon, click on <Yield> and <View> either Existing or Future. The <Yield Table and Harvest Parameters> screen will appear. Change the minimum numbers shown in white boxes under dbh, Vol/ha, or Age. This will automatically update the harvest ages. Close out this screen when you are finished to save the changes



	dbh	Vol/ha	Age
Minimum Amount	[20]	[150]	[40]
Minimum Age	36	92	
Amount at Harvest	29	200	[116]

9.6.2 Reset VAF to 1.00

This feature can be used to reset the Volume Adjustment Factor on all polygons to the default value of 1.00, for no adjustment.

9.6.3 Include all species

When harvesting conifer only in prior versions of Woodlot the user had to exclude all deciduous species manually. Woodlot now has an option on the calculation screen to harvest conifer only. When using this new method all species can be re-included using this feature.

9.6.4 Split Large Polygons

An AAC in WOODLOT can be limited by using large forest polygons. This usually happens when a stand in harvested for more than 10 years. Once a stand is harvested, it is assigned the average age depending on how long it is harvested for. The longer it is harvested, the greater the span in average age, which affects the next time it will be available for harvest. In general, it is best to keep polygons less than 10 ha in size.

When splitting polygons using this method, the user has to keep track of each piece. Changing the harvest age may require you to change 10 different pieces.

A new feature has been added which only splits the polygons temporarily during the calculation. See section *"11.2.6 Auto Split Polygons"* page *82* for information on using the new feature.

9.6.5 Copy Genetic Worth from this Polygon

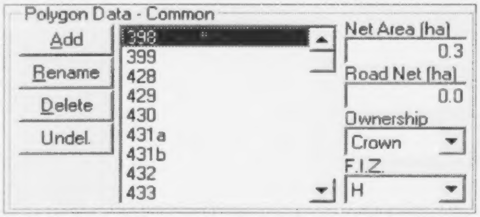
This feature is used to copy Genetic Worth variables from the current polygon to the rest of the Woodlot. Please note: the Genetic Worth percent is copied by location in the list not by species.

9.7 Polygon Data – Common

This quadrant of the **Polygon Data** screen. It is used for:

- adding, renaming, deleting, and undeleting polygons
- adding data common to the polygon.

Information on each polygon can be displayed by clicking on the mapsheet and polygon number.



398
399
428
429
430
431a
431b
432
433

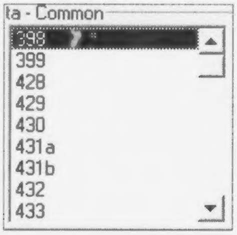
Net Area (ha) 0.3
Road Net (ha) 0.0
Ownership Crown
F.I.Z. H

9.7.1 Add, Rename, Delete, Undelete Buttons

These buttons are used to add and remove polygons. They can also be accessed through the drop down menu. Please see section *"9.1 Adding and Deleting Polygons"* for a complete description of these buttons.

9.7.2 Polygon Listings

This box contains all the polygons that have not been deleted. They are displayed by polygon name, and are listed in the order that they were entered or created.



398
399
428
429
430
431a
431b
432
433

If modifications have been made to a polygon, and one or more of the yields may not be up to date, an asterisk (*) will appear after the polygon number. This indicates that the polygon requires re-calculating yields to generate a yield table, for correct use in the **Calculations** screen.

A polygon that is being displayed may not have a yield table that is current. If modifications have been made to a polygon and one or more of the yields are not up to date, an asterisk (*) will appear after the polygon number. To update the yields, refer to Section 9.4.

9.7.3 Net Area (ha)

Enter the net operable area in hectares for the polygon. This is the net area to be reforested (inclusive of roads to be netted out in the Road Net data box below), and which will be used to grow timber over the entire 250 year planning horizon. Therefore, you must reduce this to the area net of all reserves, non-productive and non-commercial areas.

Acceptable Values: Number with one decimal place

9.7.4 Road Net (ha)

Enter the area in hectares that will be harvested in the first rotation, then removed for roads and other permanent access structures, and will not grow a crop in the next rotations.

Acceptable Values: Number with one decimal place

9.7.5 Ownership

Select the ownership for each polygon from the drop down list.

The report file will show the volume specific to each ownership as an average over the planning horizon. The **Calculate** screen will also allow a simulation to be run on any combination of ownership.

Acceptable Values: Crown, Private, Top-Up, Other

9.7.6 Forest Inventory Zone (F.I.Z.)

Click on the drop down list to select the Forest Inventory Zone (FIZ) for your woodlot. WOODLOT will accept a single letter as follows:

- A to C for Coastal stands
- D to L for Interior stands.

Decay factors are based on FIZ zone. Please see Appendix 2 for a map showing all forest inventory zones in BC.

If you do not know the FIZ, but do know the inventory region and compartment, the FIZ can be found by WOODLOT. For more information, please see section *"9.4 Finding the FIZ and* PSYU".

Acceptable Values: Letters A-L

Refer also to section *"9.10.1 Utilization (dbh)"* for more on FIZ.

9.8 Silviculture System

You can select which silviculture system will be used to harvest the forest polygon in the first and subsequent rotations. A selection can be made to account for either a clearcut or some form of alternate silviculture system (partial cut). WOODLOT will default to use a clearcut unless otherwise selected.

9.8.1 Use of Partial Cut vs. Clearcut Silviculture System

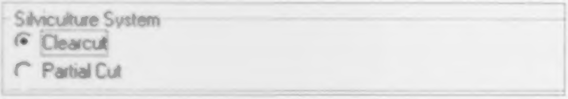
The choice of a silviculture system depends on many factors but the choice must reflect the actual operating, 'on-the-ground' conditions. WOODLOT attempts to provide a method of analyzing forest conditions and operating constraints and to provide as accurate a harvest volume (AAC) as possible. Since limited research has been conducted in partially cut stands, information on growth and yield of these stands is also limited. Thus, the model's ability to forecast future harvest levels is limited by the lack of data.

However, in spite of these limitations, it is the MOF's view that a woodlot licensee planning to use the partial cut silviculture system (for harvesting) should have their initial AAC calculated using the partial cut feature. It is not appropriate to use the clearcut feature to calculate an AAC and then conduct partial cutting operations to obtain the proposed harvest volume. Rather, the initial AAC proposed by the model, in a partial cut scenario and using the default PCAF, must be analyzed using local knowledge, experience and professional judgment. There may be valid reasons for the district manager to accept the use of a higher OR lower PCAF that will, in turn, calculate a higher or lower AAC. It is more realistic to explicitly state the assumptions and rationale used in the analysis for partial cutting operations, rather than use a silviculture system that does not reflect actual, on-the-ground operating conditions, when requesting the district manager to determine an AAC.

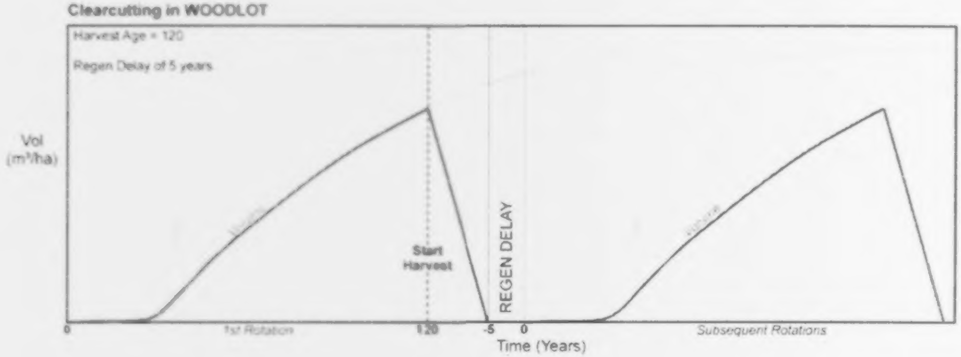
9.8.2 Clearcut

To activate clearcut, click on the Clearcut radio button. Use this system for any polygon that will approximate a clearcut, including:

- Clearcuts with reserves; enter only the net area to be harvested.
- Patch clearcuts; could be split polygons.
- Commercially thinned polygons with an intermediate and a final cut.



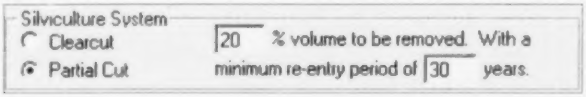
The first harvest entry will occur at or later than the harvest age selected in **Polygon Data** (in the Yield Type, Harvest Age data box), refer to section *"9.16 Harvest Age"*). The actual harvest age will depend on the order selected in the **Calculations** screen and actual position in the queue of polygons being harvested. Graphically, the clearcut methodology is as follows:



9.8.3 Partial Cut

Acceptable Values: 1-50%, 10-999 Years
[Default] values are updated directly from harvest parameters.

To activate the partial cut feature, click on the Partial Cut radio button.



Silviculture System

○ Clearcut

● Partial Cut

20 % volume to be removed. With a minimum re-entry period of 30 years.

The variables are:

- % volume to be removed: enter the two-digit percentage volume to be harvested on the first entry at the target harvest age – sets the equivalent "cut-down-to" age of the polygon. This will also harvest all the volume between the target harvest age and your current age if it is older than the target.

  For example, if the target harvest age was 120 yrs, the first partial cut would remove 20% of the stand volume, retaining 80% of the stand volume to continue growing. If the current age were older than the target harvest age, say 160 yrs old, then the partial cut would harvest the volume from 160yrs to 120 years and add this to the harvest 20% of the volume at 120 yrs for the first entry.

  If you only wish to harvest a % of the existing volume and cycle through ingrowth around the current age of the stand, then set your target harvest age to the current age. In the above example, the target harvest age would be set to 160 yrs, in which case 20% of the volume at 160 yrs would be used as the initial cut; the ingrowth would be the volume that is grown over 30 years since the "cut-down-to" age (the cut-down-to age occurs at the equivalent age at 80% of the volume).

- Minimum re-entry period: enter the minimum number of years before the next entry. This will determine the amount of ingrowth to be harvested.

  In the above example, the stand would be grown for another 30 years, and the ingrowth (reduced by the Partial Cut Adjustment Factor set in the Harvest Parameters) would be harvested as soon as possible after that time.

9.8.3.1 How Partial Cut Works

WOODLOT uses a simple approximation technique to predict future yields and measure in-growth from partially cut stands, using VDYP natural yields and a Partial Cut Adjustment Factor (PCAF). This approximation technique is considered to be most accurate when a stand is harvested close to its culmination age. It may be appropriate to use a different PCAF with adequate justification.

This method is used in the absence of yield models for partially cut stands in BC, and has been accepted by MOF staff for use in WOODLOT. (PrognosisBC was considered for use in WOODLOT, but has not been included due to the small number of ecosystems that it supports and the lack of ground cruise plots to run it.)

In WOODLOT, partial cutting works in the following manner:

1. The Partial Cut feature is selected with % removal and re-entry periods specified.

2. Yield curves are derived, as they would be for all polygons from the Calculate Yields command. Partial cutting uses only VDYP natural yields in WOODLOT.

3. The first harvest entry will occur at or later than the harvest age selected in Polygon Data (under Yield Type, Harvest white box, refer to Section *"9.16 Harvest Age (Target)"*). The actual harvest age will depend on the order selected in the **Calculations** screen and actual queue in the line of polygons being harvested. A volume of timber is removed which effectively reduces the stand to the same condition it would be in at an earlier age with the same residual volume; the stocking will be assumed to be the same as a fully stocked younger stand unless a Partial Cut Adjustment Factor is used (see below).

4. To measure volume removed on the first entry, WOODLOT will first determine the residual volume *to be reduced to* based on the % removal. The residual volume is the difference in volume at the specified harvest age less the % removal.

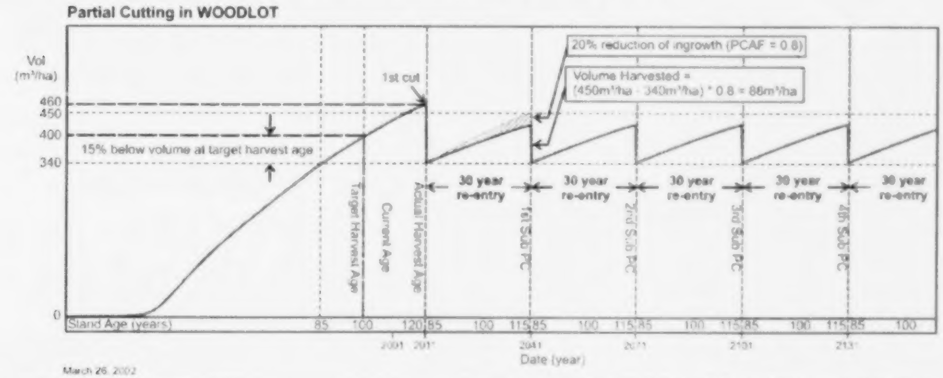
5. To model the in-growth and volume to be removed on subsequent entries, the residual volume is compared to the VDYP yield curve, and assumed to grow like a similar stand at the younger age that matches this residual volume. The stand is assumed to grow at the same rate and stocking as the naturally occurring well-stocked stand did (adjusted as noted below), and is re-harvested at the specified re-entry period.

6. To adjust for any upward or downward bias in this methodology due to regeneration lags, crown expansion, and other factors that may affect the recovery of a stand, a Partial Cut Adjustment Factor (PCAF) was introduced. The yield generated is reduced (or can be increased) by this amount. WOODLOT defaults the PCAF to 0.8, which assumes a conservative 20% reduction on ingrowth to account for the methodology bias.

   A PCAF of 1 assumes that the ingrowth will not be affected by a partial cut and will produce yields at the same rate (and shape of the yield curve) for the ingrowth period as it would if the stand had not been harvested at all.

   The PCAF can be reset in the Harvest Parameters screen. The PCAF is applied to the in-growth, and the net amount is used for harvest calculations (i.e. volume used for partial cut polygon in harvest calculations = in-growth * PCAF). Refer to Section *"11.2.7 Partial Cut Adjustment Factor"* for information on the use of and setting a Partial Cut Adjustment Factor.

7. At reentry age, the in-growth is removed, and the stand is reduced to the younger age again. The stand re grows again, until it is harvested at the next reentry period, and the cycle continues. A graphical and tabular example is provided below.



Example Item	Numerical values	Comment
Current Age of stand (years)	110	Does not affect calculations. If the current age is > the harvest age, then the current age and volume at this age will be used for the first harvest age.
Target Harvest Age (years) (existing Management = 1st harvest age)	100	User selected.
Example actual harvest age (years)	120	Typical example actual harvest age used by WOOLDOT due to delayed sequence in Calculations or queue
Total Volume at target harvest age (m^3/ha)	400m^3/ha	VDYP generated.
% volume to be removed	15%	User selected. This will reduce the volume available to 85% of the volume at the target harvest age.
Minimum Reentry period (years)	30	User selected. This is the in-growth period. Volume grown over this period will be harvested on the next entry.
Residual Volume (Volume to be harvested down to) in all partial cuts (m^3/ha)	400-(15%*400) = 340m^3/ha	WOODLOT calculated as the residual volume (lower bench mark value) to measure from.
Total Volume at actual harvest age (m^3/ha)	460m^3/ha	VDYP generated.
Volume removed at first harvest (m^3/ha)	460-340 = 120m^3/ha	Volume that WOODLOT will include in the harvest rate calculations.
Assumed stand age which in-growth is assumed to occur from (years)	Volume of 340m^3/ha occurs at 85 years age on a normal VDYP stand	VDYP generated.
Regen Delay	*N/A*	*This feature was removed in version 3.1*
Assumed stand age at next and subsequent harvests (years)	85 + 30 years = 115years	WOODLOT will use the volume at this age.
Volume for a normal stand at 115 years (m^3/ha)	450m^3/ha	
In-Growth (m^3/ha)	450-340 =110m^3/ha	Unadjusted in-growth, which will vary depending on the actual subsequent harvest age.
PCAF	0.8	Partial Cut Adjustment Factor is user selected. This assumes a 20% reduction in volume to account for an otherwise overestimation from clearcut based yield curves at the corresponding age.
In-growth volume used for subsequent harvest calculation	0.8*110m^3/ha = 88m^3/ha	Volume that WOODLOT will include in the subsequent harvest rate calculation.

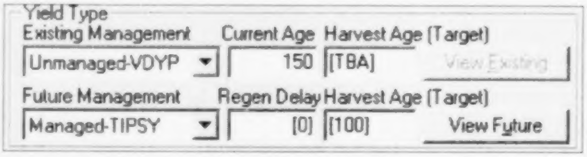
Notes:

1. Until recently, the TSR method assumes a process whereby the volume available on reentry equals a constant mai x years growth, based on some reduced mai.
2. Selecting partial cut will turn off any TIPSY yield tables. Only VDYP can be used in conjunction with Partial Cut at this time. Future releases of WOODLOT may use partial cut yield curve information in exchange for this option.

9.9 Yield Type

This section is used to identify the timber yield type and other information relating to yield type, including:

- yield information based on existing and future management of your forest polygon
- the current age
- the regeneration delay you expect
- the earliest harvest ages for the existing stand condition
- the earliest harvest ages for the future stand condition
- to view yield curves and yield data for the existing stand condition
- to view yield curves and yield data for the future stand condition



Existing Management: Unmanaged-VDYP
Current Age: 150
Harvest Age (Target): [TBA]
Future Management: Managed-TIPSY
Regen Delay: [0]
Harvest Age (Target): [100]

You may also view your yield information for the existing forest and the future forest.

9.9.1 Existing and Future Yield Management

You have a choice of four yield management types in WOODLOT as follows.

Yield Type	Existing Management (current forest condition	Future Management (future forest condition and for subsequent rotations)
Natural – VDYP	Used for naturally occurring unmanaged stands, coniferous or deciduous, partial cut stands, and deciduous stands that will be managed.	Used for naturally occurring unmanaged stands, coniferous or deciduous, partial cut stands, and deciduous stands that will be managed.
Managed – TIPSY	Used for coniferous stands that have received some level of management to bring to a free growing state, or significant intervention in the way of spacing.	Used for coniferous stands that will received some level of management to bring to a free growing state, or significant intervention in the way of spacing.
Non Commercial	Used for sites that are not in a commercial forest type, but which you wish to convert to a commercial forest type in the future. May have some standing volume, but not enough to generate a timber yield curve for. You can add heights to NC polygons if you	Not available as a future condition.

	wish them to contribute to offsetting your height constraints.	
NSR	Current sites that have not been reforested yet, but you intend to.	Not available as a future condition.

VDYP = Variable Density Yield Projection
TIPSY = Table Interpolation Program for Stand Yields
NSR = Not Satisfactorily Restocked

See also Appendix 5 for information on which yield type to use, consult the user manuals for VDYP and TIPSY, or contact your Forest District Inventory Forester.

9.9.2 *Existing / Future Management Type*

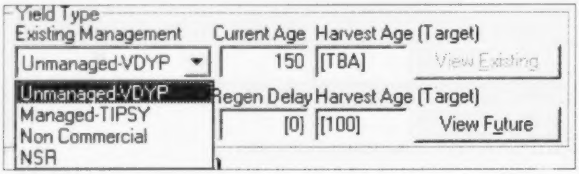
WOODLOT calculates a harvest over multiple rotations using yield information based on the management type. Therefore, you will need to specify the type of current and future forest management condition that suits your woodlot needs. Choose either "Natural-VDYP" or "Managed-TIPSY" from the drop down pick list.

This choice must reflect the actual 'on-the-ground' conditions, reforestation treatments and silviculture systems.

Note: VDYP and TIPSY are MOF yield models. Some variables are treated differently in VDYP than in TIPSY. Please use care when entering data from one yield type to the next. For example, SI and SI Age are treated differently.

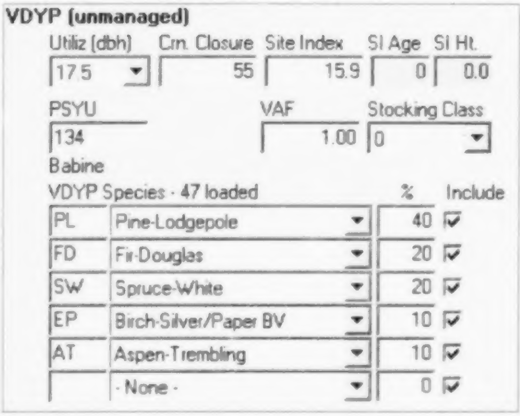
The choices of yield type are:

- Unmanaged – VDYP
- Managed – TIPSY
- Non-commercial
- NSR


Yield Type
Existing Management: Unmanaged-VDYP
Current Age: 150
Harvest Age (Target): [TBA]
Regen Delay: [0]
Harvest Age (Target): [100]

9.10 VDYP Data

If you select Natural – VDYP, the following screen will appear on the lower left portion of the **Polygon Data** screen:



VDYP (unmanaged)

Utiliz (dbh): 17.5
Crn. Closure: 55
Site Index: 15.9
SI Age: 0
SI Ht.: 0.0
PSYU: 134
Babine
VAF: 1.00
Stocking Class: 0

VDYP Species - 47 loaded

		%	Include
PL	Pine-Lodgepole	40	☑
FD	Fir-Douglas	20	☑
SW	Spruce-White	20	☑
EP	Birch-Silver/Paper BV	10	☑
AT	Aspen-Trembling	10	☑
	- None -	0	☑

WOODLOT uses the Ministry of Forests Variable Density Yield Projection yield model (VDYP batch version) to derive yields on naturally occurring stands. Please refer to a VDYP user manual or your Inventory forester to answer any specific questions you have on VDYP data or results.

Enter inventory data in this area of the **Polygon Data** screen for current and future stands that either have not, or will not receive any significant management treatments. If you do not know or are unsure, assume the stand will be natural unmanaged. Most stands older than 30 years of age will be naturally occurring, and have not received significant incremental silviculture treatments. VDYP is used for naturally occurring unmanaged stands, partial cut stands, deciduous, and stands that will be managed for mixed deciduous/coniferous species.

9.10.1 Utilization (dbh)

Acceptable Values: 12.5, 17.5, and 22.5

Select the utilization level for your polygon from the drop down pick list. The choices available are:

Forest Inventory Zone	**Inventory Utilization Level Available from VDYP (diameter at breast height (cm.))**			
	12.5	*15.0*	17.5	22.5
A to C (i.e. Coast)	Activate Alternate WBS in **Settings**	*Not Available*	Available	Available
D to L (i.e. Interior)	Available	*Not Available*	Available	Activate Alternate WBS in **Settings**

In WOODLOT 3.1, you now have the option to use a utilization level 12.5 on the coast and 22.5 in the interior if you activate the Alternate WBS check box in the **Settings** screen (refer to section *"15.1.4 Waste and* Breakage - Alternate WBS".)

9.10.2 Crown Closure

Acceptable Values: Positive integer

Enter the Crown Closure as a percent (e.g. enter 62 for 62%). This is usually included on MOF forest cover maps. Refer to the VDYP manual or *"0"* for default Crown Closures if you do not know.

NOTE: If your stand is less than 50 years age, you will need to predict yields using a projected Crown Closure for the stand once it reaches maturity. Use either a VDYP default Crown Closure or have VDYP provide the default Crown Closure by entering a SI Age

A manually entered Crown Closure will override any default Crown Closure that might otherwise be looked up using a SI Age.

The actual Crown Closure used in VDYP will also be displayed in the Yield Table and Harvest Parameters.

9.10.3 Site Index

Acceptable Values: Positive decimal

Site Index (SI) may be entered manually, or derived by VDYP.

1. Enter a known site index (height in meters at total reference age 50 years) in the data box. Site index is available from forest cover maps, inventory FIP files or silviculture records.

2. Alternately, you may have the site index derived by VDYP by entering height and age in the next few fields. Refer to section 9.10.3.1 and 9.10.3.2 below for details.

Site Index MUST be entered for stands younger than 30 years, and cannot be calculated.

The site index will change to a cyan (light blue) colour if the calculated site index is different from the one entered. The calculated site index will not be displayed as 0 on the polygon screen but will have its calculated value displayed in the Yield Table and Harvest Parameters window.

Note: if stand height and total age are entered, then site index is determined from these values, and will override any manually entered site index.

The actual site index calculated and also used in VDYP will be displayed in the Yield Table and Harvest Parameters.

9.10.3.1 SI Age

Acceptable Values: Positive integer

This value should only be entered if:

- you wish to derive a site index and have an accompanying SI height, and the site index is unknown, or
- if you have supplied a site index and would like to have VDYP look up and use a default Crown Closure for stands less than 50 years.

Caution: if stand height and total age are entered, then site index is determined from these values, and will override any manually entered site index.

Enter the average age of dominant trees that have been measured for Site Index.

Caution: *Use SI (total) Age only if the stand is older than 30 years.*

9.10.3.2 SI Height

Acceptable Values: Positive decimal

This value should only be entered if:

- You wish to derive a site index and the site index is unknown

Note: if stand height and total age are entered, then site index is determined from these values, and will override any manually entered site index.

Enter the average height of dominant trees that have been measured for Site Index.

Caution: *Use SI Height only if the stand is older than 30 years.*

9.10.4 PSYU

Acceptable Values: Positive integer

Enter the PSYU number for the area around your Woodlot. The PSYU number is used to reduce gross volumes for waste and breakage in VDYP.

If you do not know the PSYU (or FIZ), but do know the inventory region and compartment, the PSYU can be found by WOODLOT. For more information please see section *"9.4 Finding the FIZ and* PSYU".

If you do not provide a PSYU number while entering VDYP data, VDYP will 'self correct' this gap and will use the default PSYU (provided internally with it for the FIZ zone) to carry out the yield calculations. The resulting yields will be close, but not correct, and these volumes will be used for harvest rate calculations. This default PSYU used will not be displayed in WOODLOT other than in the Post Calculation Error box under the calculate yields function (it can be viewed in the text file generated by VDYP). You should ensure that you correct any yield calculation errors.

9.10.5 PSYU Block

Acceptable Values: Single character

This feature has been added for advanced inventory users only, and to provide complete input to VDYP if it is available. PSYU Blocks are only available for some areas of the province. PSYU Block can be derived using the Find PSYU feature. See section *"9.4 Finding the FIZ and* PSYU".

This input data box must be activated in the **Settings** screen to use this feature.

9.10.6 VAF

Acceptable Values: Positive decimal

The Volume Adjustment Factor (VAF) can be used to scale the VDYP volume up or down depending on the actual volume you observe for your polygon. That is,

VAF = (actual volume)/(yield predicted volume).

For example, if volumes recovered or cruised are typically greater than VDYP would predict by 10%, enter 1.1; conversely, if volumes are typically lower by 20%, enter 0.8. This can only be used for VDYP yields.

Normally this will remain 1.0. Do not adjust the VAF unless you can demonstrate the variability in your inventory information.

Caution: Local cruise volumes, local scale volumes and MOF inventory volumes (derived at the Timber Supply Area level) are all based on sample measurements that usually represent an accurate measurement of the volumes averaged over a larger area (say to the TSA level). However, as samples may not accurately represent the actual volume accurately in all site-specific cases, it may be appropriate to use a different VAF. There must be a clear pattern of accurate, local information differing significantly from MOF inventory information to justify using a higher VAF than 1.0.

9.10.7 Stocking Class

Acceptable Values: 0, 1, 2, 3, 4, R

Select the Stocking class for your polygon from the drop down pick list. This is the stocking class you expect at harvest age. These include:

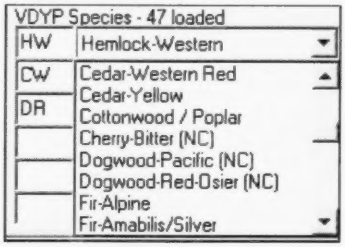
Code	Applies to	Limits (No. tree/ha, dbh)
0	All immature	NA
1	All mature	>76/ha, 27.5 cm+ dbh
2	All mature	<76/ha, 27.5 cm+ dbh
3	All mature with leading species Pl	>/= 311/ha, 17.5 cm+ dbh and 50% of stems 7.5 cm+ dbh are >/= 12.5 cm dbh
4	All mature with leading species Pl	< 311/ha, 17.5 cm+ dbh or >/= 311/ha, 17.5 cm dbh and < 50% of stems 7.5 cm+ dbh are >/= 12.5 cm dbh
R	All mature All immature	Stands disturbed 26-75% by area or volume

Source: MOF Forest Cover Legend

Stocking Class 0 is treated the same as 1 in VDYP. Stocking class R is used for a residual stand.

9.10.8 Species

Up to 6 VDYP species can be added in order of % dominance and in descending order on the forest polygon (e.g. Hw 60%, Cw 30%, Dr 10%). You can enter species using the two-digit species code, or select from the drop down pick list. Do not leave any blank (-None-) species between other species.


VDYP Species - 47 loaded

HW Hemlock-Western

CW

DR

Refer to Appendix 7 for a complete listing of species available in WOODLOT.

Non-commercial species such as pacific western yew generally have zero volume in the yields compiled by VDYP, though these species are included for compatibility with MOF FIP files. These are denoted by (NC) in the pick list.

9.10.8.1 Species Percent

Acceptable Values: Positive integer

Enter the percent by species to a total of 100%.

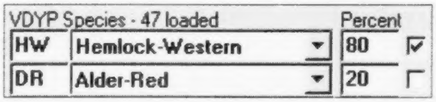
The boxes will be a yellow colour if the species do not add up to 100%. Double click on the percent box to automatically allocate the remaining percent to this species, or enter in the correct number.

9.10.9 Netting Out VDYP Species

This feature is used to net out VDYP species from the harvest calculation. It may only be used for clearcut polygons. It is recommended that you use the feature in the Harvest Calculation screen to net out deciduous. Refer to section *"12.9.2 Utilize Conifer Only".*

Next to the species percent are a series of check boxes. To exclude the species from being incorporated in the harvest calculation, clear the check box.

To include the species into the harvest calculation, ensure the check box is checked on.



VDYP Species - 47 loaded		Percent	
HW	Hemlock-Western	80	☑
DR	Alder-Red	20	☐

By default initially, WOODLOT will check all species on. WOODLOT will only use the volume for the species checked on for all subsequent calculations.

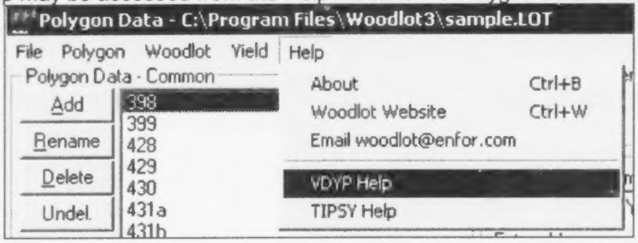
If you choose to net out a species (check box is empty), the polygon must be converted to a TIPSY polygon for future management, as this suggests that the site will be rehabilitated.

The yield table will display two sets of volumes:

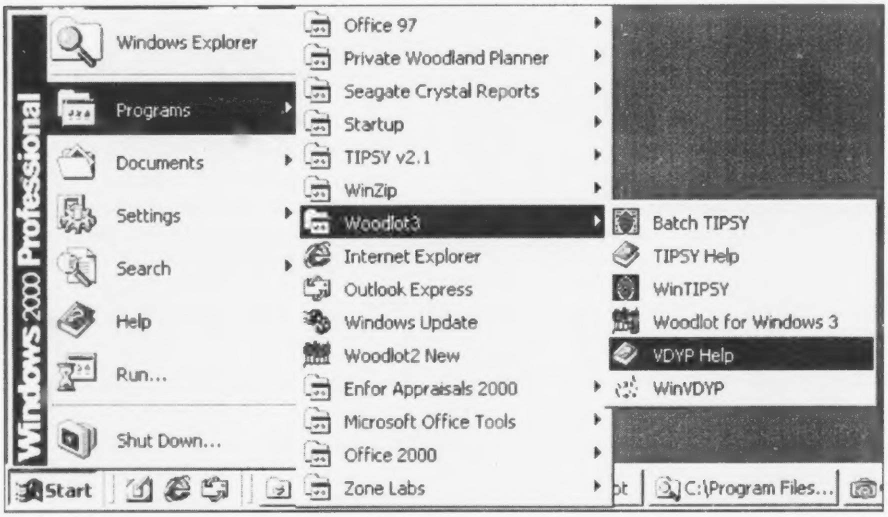
- The "DBH", "Height", "Volume/ha", and "MAI" will be displayed only for the species that have been checked on.
- The volumes in columns labeled "Vol (1)" to "Vol (6)" are for each of the species originally used in VDYP. You can check that the total net volume the total volume for the polygon, not the net volume. For example, if you had only 1 species checked on, you would see that the total Volume/ha = the volume for that species alone.

9.10.10 VDYP Help

VDYP online help may be accessed from the Help menu in the Polygon Data screen.

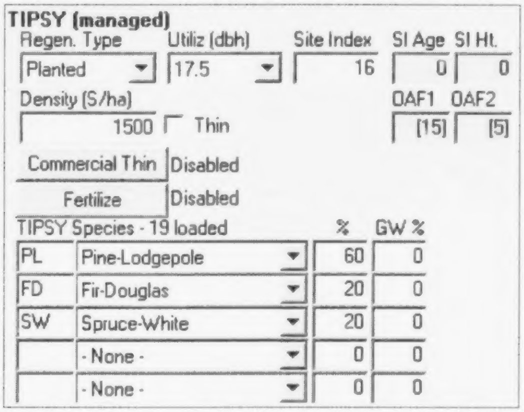

Polygon Data - C:\Program Files\Woodlot3\sample.LOT
File
Polygon
Woodlot
Yield
Help
Polygon Data - Common
Add
Rename
Delete
Undel.
398
399
428
429
430
431a
431b
About Ctrl+B
Woodlot Website Ctrl+W
Email woodlot@enfor.com
VDYP Help
TIPSY Help

You may also refer to VDYP help by activating the VDYP help features installed in your WOODLOT directory. Use your Windows Explorer or the Start menu as shown below to activate VDYP help:


Windows 2000 Professional
Windows Explorer
Programs
Documents
Settings
Search
Help
Run...
Shut Down...
Start
Office 97
Private Woodland Planner
Seagate Crystal Reports
Startup
TIPSY v2.1
WinZip
Woodlot3
Internet Explorer
Outlook Express
Windows Update
Woodlot2 New
Enfor Appraisals 2000
Microsoft Office Tools
Office 2000
Zone Labs
Batch TIPSY
TIPSY Help
WinTIPSY
Woodlot for Windows 3
VDYP Help
WinVDYP
C:\Program Files...

9.11 TIPSY Data

If you select Managed – TIPSY, the following screen will appear on the lower right portion of the **Polygon Data** screen:



TIPSY (managed)

Regen. Type: Planted
Utiliz (dbh): 17.5
Site Index: 16
SI Age: 0
SI Ht.: 0
Density (S/ha): 1500
☐ Thin
OAF1: [15]
OAF2: [5]
Commercial Thin: Disabled
Fertilize: Disabled

TIPSY Species - 19 loaded		%	GW %
PL	Pine-Lodgepole	60	0
FD	Fir-Douglas	20	0
SW	Spruce-White	20	0
	- None -	0	0
	- None -	0	0

WOODLOT uses the Ministry of Forests Table Interpolation Program for Stand Yields (TIPSY batch version) to derive yields on managed stands. If you have any questions on the use or results from TIPSY, please refer to your Forest District Inventory Forester or the user guide for WinTIPSY 3.0, which is provided in the WOODLOT 3.0 directory and described in section *"9.11.10 "*.

Enter inventory data for stands that have or will receive some level of planting or management to bring to a free growing state, or significant intervention in the way of spacing. If you do not know, assume the stand to be naturally occurring, and use VDYP for both existing and future. Enter polygon information here as follows.

9.11.1 Regeneration Type

Select either Planted or Natural for establishment for your polygon from the drop down pick list. Note that "Natural" regenerated stands are assumed to be managed to a free growing state with the stocking control required of a managed forest.

9.11.2 Utilization (dbh)

Acceptable Values: 12.5, 15.0, 17.5, and 22.5

Select the utilization level for your polygon from the drop down pick list. . The choices available are:

Forest Inventory Zone	Inventory Utilization Level Available from TIPSY (diameter at breast height (cm.))			
All Coast and Interior	12.5	15.0	17.5	22.5

9.11.3 Site Index

Acceptable Values: Positive decimal

Site Index (SI) may be entered manually, or derived by TIPSY.

1. Enter a known site index (height in meters at total reference age 50 years) in the data box. Site index is available from forest cover maps, inventory FIP files or silviculture records.
2. Alternately, you may have the site index derived by TIPSY by entering height and age in the next few fields. Refer to section 9.11.3.1 and 9.11.3.2 below for details.

Site Index MUST be entered for stands younger than 30 years, and cannot be calculated.

The site index will change to a cyan (light blue) colour if the calculated site index is different from the one entered. The calculated site index will not be displayed as 0 on the polygon screen but will have its calculated value displayed in the Yield Table and Harvest Parameters window.

Note: the rule in TIPSY is, unlike VDYP, a manually entered SI *will override a SI* calculated from age and height.

The SI entered or calculated will be used for all TIPSY species in that polygon.

9.11.3.1 SI Age

Use this feature only if you wish to calculate site index with TIPSY. TIPSY will calculate a Site Index for stands that are older than 30 years.

Enter the *breast height age* used to derive SI for the polygon. This is not the total age as is used in VDYP.

9.11.3.2 Site Index Height

Enter height derived for the breast height stand age of the dominant trees.

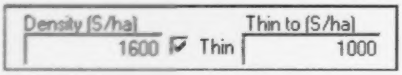
9.11.4 Density (Stems/ha)

Enter the number of stems per hectare at date of establishment. For older stands, you will have to check inventory information or make an assumption. Document these assumptions in your report to the District Manager.

Minimum density is 331 s/ha; maximum density is 10 000 s/ha for natural and 4 444 s/ha. for planted trees.

9.11.4.1 Thin

You can activate the pre-commercial thinning feature by clicking on this check box. A white data box will be displayed if this feature is activated.



Density (S/ha): 1600
☑ Thin
Thin to (S/ha): 1000

Enter the density (stems/ha.) that you wish to thin down to. Your stand must have an initial density that is high enough to be thinned. Do not use this feature unless you are sure the stand will be thinned.

The minimum density that can be thinned is 400 stems/ha. The maximum cannot exceed the initial density. Stands are thinned when they reach a height of 4 meters in the interior and 6 meters on the coast.

9.11.5 OAF1 / OAF2

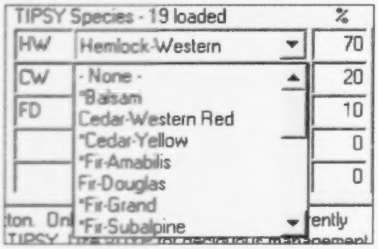
Operational Adjustment Factors (OAF) can be set individually by polygon from the TIPSY screen. It may be set globally for your woodlot as a default in the **Settings** <TIPSY> screen.

WOODLOT defaults OAFs to the recommended factors (MOF Research Branch) of 15 and 5%. OAFs should not be adjusted unless you have better, supportable, information.

OAF1 is used to account for unproductive areas (holes in the forest) and OAF2 is used to account for losses towards maturity (pests) found operationally in new forests, but which has not been accounted for in managed stand research information. Refer to the TIPSY manual or appendices if you have any questions on the use or application of OAFs.

9.11.6 Species

Up to 5 TIPSY species can be added in order of % dominance and in descending order on the forest polygon (e.g. Hw 60%, Cw 30%, Fd 10%). You can enter species using the two-digit species code, or select from the drop down pick list. Do not leave any blank (-None-) species between other species. Note: TIPSY will accept up to 5 species (not 6 as in VDYP) for a single polygon.



TIPSY Species - 19 loaded

		%
HW	Hemlock-Western	70
CW		20
FD		10
		0
		0

The species selection is based on six main species supported by TIPSY. Species listed with an asterisk (*) will use surrogate species from one of the six species in TIPSY to derive yield information. Refer to the WinTIPSY user manual for a listing of surrogate species if yours are not shown in this list, or Appendix 7.

9.11.6.1 Species Percent

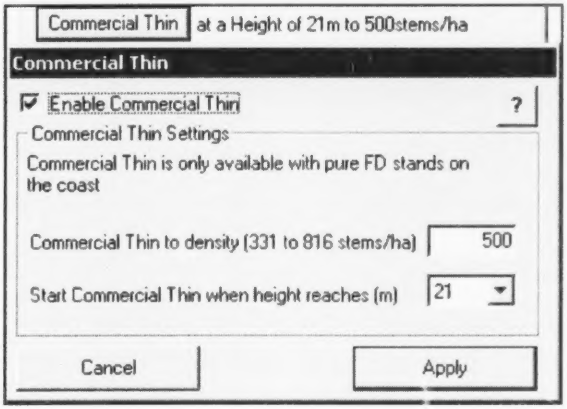
Acceptable Values: Positive integer

Enter the percent by species to a total of 100%.

The boxes will be a yellow colour if the species do not add up to 100%. Double click on the percent box to automatically allocate the remaining percent to this species, or enter in the correct number.

9.11.7 Commercial Thin

A new feature in WOODLOT 3.0 is the addition of commercial thinning in TIPSY. Clicking the Commercial Thin button will activate the following screen:



at a Height of 21m to 500stems/ha

☑ Enable Commercial Thin

Commercial Thin Settings

Commercial Thin is only available with pure FD stands on the coast

Commercial Thin to density (331 to 816 stems/ha) 500

Start Commercial Thin when height reaches (m) 21

Commercial thinning is limited by region and species densities at time of commercial thin. For coastal regions commercial thinning can only be carried out on pure Coastal Douglas fir (FDC) stands; for the Interior, pure Lodgepole Pine (PL) stands only. Allowable densities are as follows:

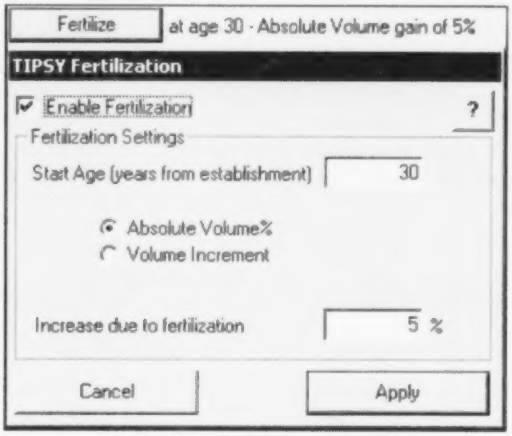
Species	Heights (m)	Lowest density to CT to (stems/ha)	Highest density to CT to (stems/ha)
PL	16	331	816
	18	331	816
	22	331	816
FDC	21	331	816
	27	331	816
	33	331	816

Note: For lower initial densities, the maximum commercial thinning will be lower, as the number of trees available at the specified height may be less than the maximum.

Please refer to an inventory forester or the user guide for WinTIPSY 3.0 (provided in the WOODLOT 3.1 directory and described in section *"9.11.10"*.) if you have other questions on the use of this feature, or how to deal with other species.

9.11.8 Fertilize

A feature in WOODLOT 3.1 is the addition of fertilizing in TIPSY. Clicking the Fertilize button will activate the following screen:



at age 30 - Absolute Volume gain of 5%

☑ Enable Fertilization

Fertilization Settings

Start Age (years from establishment) 30

● Absolute Volume%
○ Volume Increment

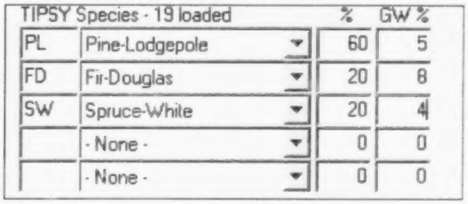
Increase due to fertilization 5 %

Fertilization is applied at a stand level over a 10-year period, and can only be applied to single-species stands. The fertilization gain can be entered as either absolute or percent volumes. Absolute volumes are limited between 0 and 50m³/ha for pure Coastal Douglas Fir and between 0 and 15m³/ha for Pine, Spruce and Interior Douglas Fir. The percent volume is limited to a 0 and 50% range.

Refer to your Forest District Inventory Forester or the user guide for WinTIPSY 3.0, which is provided in the WOODLOT 3.1 directory and described in section *"9.11.10 TIPSY Help "*.

9.11.9 Genetic Worth

To activate the genetic worth feature in WOODLOT, enter the % next to the species % in the TIPSY screen.



TIPSY Species - 19 loaded		%	GW %
PL	Pine-Lodgepole	60	5
FD	Fir-Douglas	20	8
SW	Spruce-White	20	4
	- None -	0	0
	- None -	0	0

The Research Branch tree improvement program has developed genetically improved material over the past 30 years by selecting and breeding superior trees. We measure the quality of an improved seedlot by its genetic worth, which represents the percentage volume gain expected at an index age near harvest. The calculation of genetic worth assumes that the percent height gains recorded at the selection age will decline with time because there is a risk of not selecting the best trees. Conversely, the likelihood of identifying superior trees increases as the selection age approaches the index age.

Most yield information provided by TIPSY is derived from a database of tables generated by TASS. However, genetic gain is modeled within TIPSY as an increase in top height, which accelerates the development of the stand. This approach helps curb the size of TIPSY's rapidly expanding database. The action of genetic gain is similar in TASS.

Each improved seedlot is characterized by:

- Identification number - the code under which the seedlot is registered in the Seed Planting And Registry System (SPAR) database.
- Genetic worth - An index of the percent gain in merchantable volume expected at a designated age from plantations managed under the same conditions and average site index as the test sites. TIPSY uses the genetic worth of a seedlot and other information (e.g. site quality, establishment density, selection age) to forecast the yield of the improved stand at potential harvest ages (see How TIPSY Applies Genetic Gain).
- Selection age - The age (years since planting) at which the seed orchard parents were selected.

To capture genetic gain in TIPSY, you must know the genetic worth of the seedlot. If you have access to the SPAR database, you can enter the identification number to get the genetic worth of a particular seedlot. TIPSY assumes a specific selection age for each species. When differing selection ages for the same species become available, we will modify TIPSY to allow you to enter that particular age.

Managers should receive the Genetic Worth rating when a particular seedlot is ordered. If only the seedlot number is known, consult the SPAR database by going to the website at http://www.for.gov.bc.ca/tip/spar/index.htm or contact Leslie Mcauley at Tree Improvement Branch.

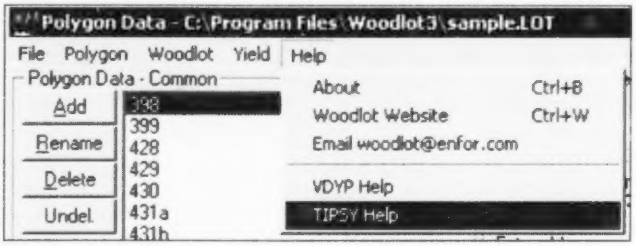
You might also want to read a Ministry of Forests Extension Note on the web titled Early Genetic Gains Verified in Realized-gain Trials of Coastal Douglas-fir and Western Hemlock.

Operational Tips

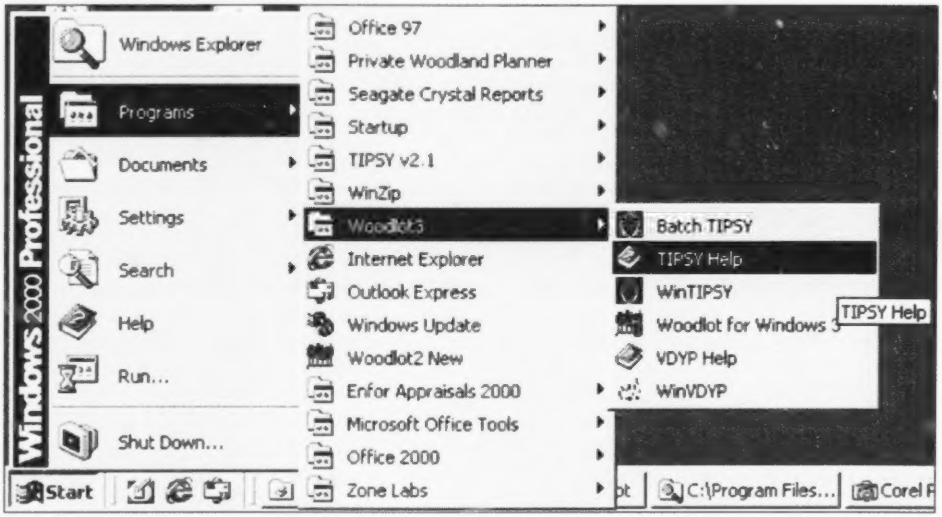
- **Limitations**: Genetic gain isn't applicable to natural stands, or planted western hemlock growing in the interior. When using the multiple species option, it's not possible to have an improved and unimproved version of the same species.
- **Species Substitution**: If you want to explore genetic gain for larch, substitute the defaults for interior Douglas fir. For yellow cedar, use western redcedar.
- **Genetic worth**: Gains are referenced to a specific age (60 or 80 years), site index and treatment regime. Gains will be higher or lower for other conditions.

9.11.10 TIPSY Help

TIPSY online help may be accessed from the Help menu in the Polygon Data screen.

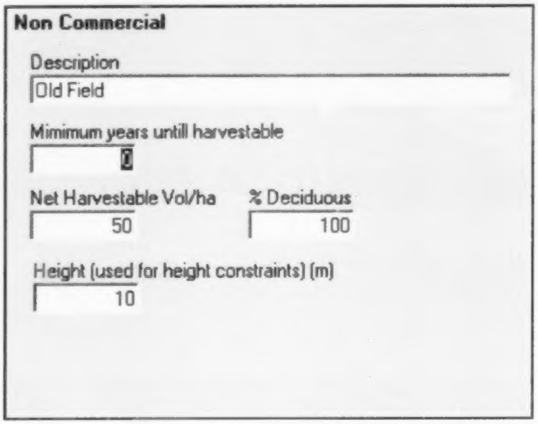

Polygon Data - C:\Program Files\Woodlot3\sample.LOT
File Polygon Woodlot Yield Help
Polygon Data - Common
Add
Rename
Delete
Undel.
398
399
428
429
430
431a
431b
About Ctrl+B
Woodlot Website Ctrl+W
Email woodlot@enfor.com
VDYP Help
TIPSY Help

You may also refer to TIPSY help by activating the TIPSY 3.0 help features installed in your WOODLOT directory. Use your Windows Explorer or the Start menu as shown below to activate TIPSY help:


Windows 2000 Professional
Windows Explorer
Programs
Documents
Settings
Search
Help
Run...
Shut Down...
Start
Office 97
Private Woodland Planner
Seagate Crystal Reports
Startup
TIPSY v2.1
WinZip
Woodlot3
Internet Explorer
Outlook Express
Windows Update
Woodlot2 New
Enfor Appraisals 2000
Microsoft Office Tools
Office 2000
Zone Labs
Batch TIPSY
TIPSY Help
WinTIPSY
Woodlot for Windows 3
VDYP Help
WinVDYP
TIPSY Help
C:\Program Files...
Corel

9.12 Non-Commercial Polygons

If you select the Non-Commercial option under Existing Management, the following will appear on the lower left portion of the **Polygon Data** screen:



Non Commercial

Description: Old Field

Mimimum years untill harvestable: 0

Net Harvestable Vol/ha: 50

% Deciduous: 100

Height (used for height constraints) (m): 10

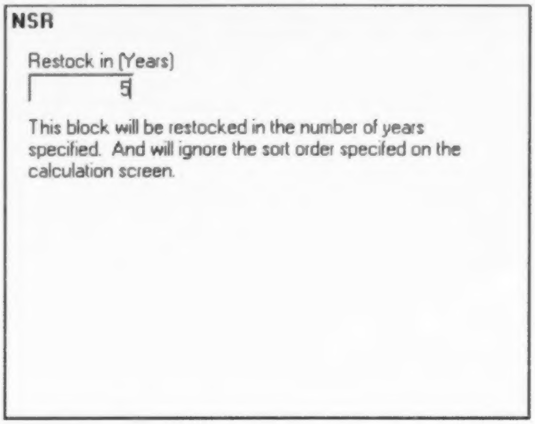
This screen has been included for users that wish to account for sites that they intend to rehabilitate and bring into timber production. Enter the data boxes, and include an estimate of the harvestable volume if any from this polygon.

Non-Commercial is only available under Existing Management, and you will be prompted to include data using VDYP or TIPSY for future management.

Since Non-Commercial polygons may not meet the minimum harvest parameters (shown by a target harvest age of (999)), you may have to manually set the harvest age in the polygon data screen.

9.13 NSR Polygons

If you select the NSR option under Existing Management, the following will appear on the lower left portion of the **Polygon Data** screen:



This block will be restocked in the number of years specified. And will ignore the sort order specifed on the calculation screen.

This screen has been included for users that wish to account for sites that they intend to reforest and bring into timber production, but are still classified as Not Satisfactorily Stocked (NSR). Enter the number of years before it will be considered restocked.

NSR is only available under Existing Management, and you will be prompted to include data using VDYP or TIPSY for future management.

9.14 Current Age

Acceptable Values: Integer (no decimals)

Enter the current average age of dominant species in the polygon.

9.15 Regen Delay

Acceptable Values: Positive Integer (no decimals)

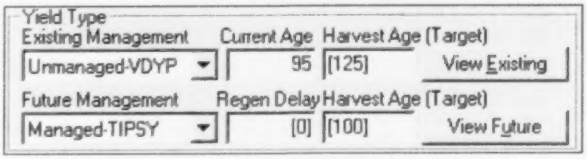
The regeneration delay specifies the number of years to wait after harvesting a polygon before restarting the growth on the yield table. A 0-regen delay assumes you will reestablish a fully stocked stand the same year you harvest. Normally you should allow 2 years.

[Default] value is updated directly from harvest parameters.

9.16 Harvest Age (Target)

Acceptable Values: Positive integer

This is where you select the target harvest age for your polygon. The target harvest age is the youngest age at which WOODLOT will harvest the polygon, for the Existing and Future Management rotations.



Existing Management: Unmanaged-VDYP
Current Age: 95
Harvest Age (Target): [125]
Future Management: Managed-TIPSY
Regen Delay: [0]
Harvest Age (Target): [100]

In the example above, WOODLOT will:

- the current age is 95 years.
- hold the polygon until it is 125 years old before attempting to harvest it in the first rotation (Existing Management.)
- hold the polygon until it is 100 years old in the second and subsequent rotations before it attempts to harvest (Future Management.)
- a Regen delay of 0 years is assumed.
- numbers surrounded by [ ] are derived from default settings in woodlot. In this case, the Existing Management target harvest age was set based on a culmination age. The Future Management target harvest age was also set based on culmination age. The Regen delay of 0 years is a default in the woodlot harvest parameters.

Target harvest ages may set the harvest age in one of three ways:

1. WOODLOT will initially establish the target harvest age based on:
    - the stand's culmination age, and
    - meeting all minimum harvest parameters (diameter, vol/ha, age) set for the woodlot or polygon (refer to section *"9.6 Woodlot Menu".)*
    - the default harvest age is denoted by **[ ]** square brackets (e.g. [63] means the polygon culminates at 63 yrs or it does not meet minimum harvest parameters until 63 years age.)
    - a harvest age of **[999]** indicates that the polygon could not meet its minimum harvest parameters, or that it's yield is 0 for some reason.

2. The harvest age may be manually changed by highlighting and typing over with a new age. This will force the cut at this age.

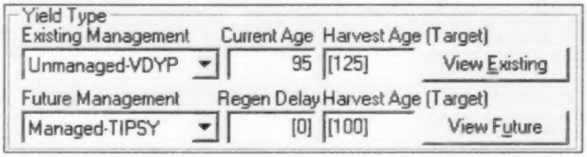
3. The harvest age may be manually changed by selecting View Existing/Future, which will display the Yield graph and table. Harvest ages can be selected:
    - directly off the yield graph, or
    - by clicking in the box next to the up/down arrow scroll. See section *"9.5.3 View Existing Yield"* for more information about the view yield screen.

A manually entered harvest age will override minimum harvesting parameters selected by WOODLOT.

The harvest age will display as [TBA] if it has not been calculated by WOODLOT yet.

9.17 View Existing / View Future

These buttons activate the "Yield Table and Harvest Parameters" screen for viewing yield table information. Yield information must have been calculated to use these buttons.



Existing Management: Unmanaged-VDYP
Current Age: 95
Harvest Age (Target): [125]
Future Management: Managed-TIPSY
Regen Delay: [0]
Harvest Age (Target): [100]

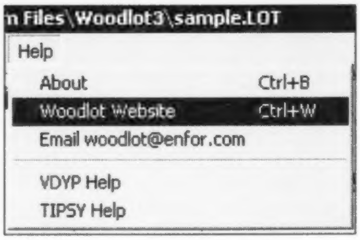
These buttons will be grayed out, not activated, if the polygon yields have not been calculated yet.

These functions may also be activated from <Yield> on the **Polygon Data** menu. Please see section *"9.5.3 View Existing Yield"* for more information on the keystroke and menu access to these functions.

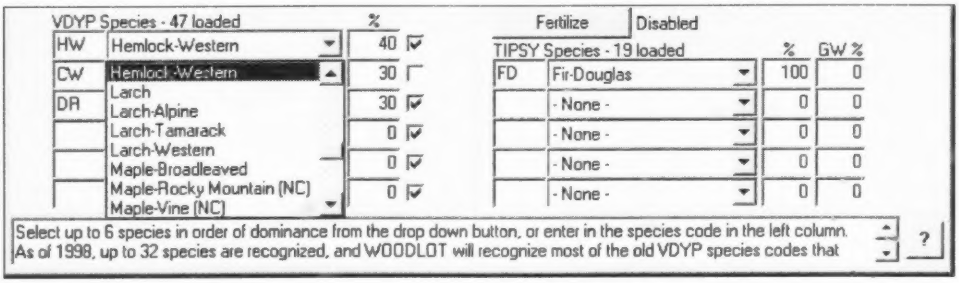
See section *"10.0 Yield Table and Harvest Parameters"* for information on the information displayed.

9.18 Help – Polygon Data

The Polygon Data screen has two sources of help information. The first is located under the Help menu, which links you to several help sources, including two on-line help files for VDYP and TIPSY. Refer to section *"9.10.10 VDYP Help and 9.11.10 TIPSY Help"* for information on these sources.


n Files\Woodlot3\sample.LOT
Help
About Ctrl+B
Woodlot Website Ctrl+W
Email woodlot@enfor.com
VDYP Help
TIPSY Help

In addition to the VDYP and TIPSY help files, the **Polygon Data** screen has a help description feature located at the bottom of the screen, displayed in a yellow data box.


Fertilize
Disabled
Hemlock-Western
Larch
Larch-Alpine
Larch-Tamarack
Larch-Western
Maple-Broadleaved
Maple-Rocky Mountain (NC)
Maple-Vine (NC)
?

VDYP Species - 47 loaded

		%	
HW	Hemlock-Western	40	☑
CW		30	☐
DR		30	☑
		0	☑
		0	☑
		0	☑

TIPSY Species - 19 loaded

		%	GW %
FD	Fir-Douglas	100	0
	- None -	0	0
	- None -	0	0
	- None -	0	0
	- None -	0	0

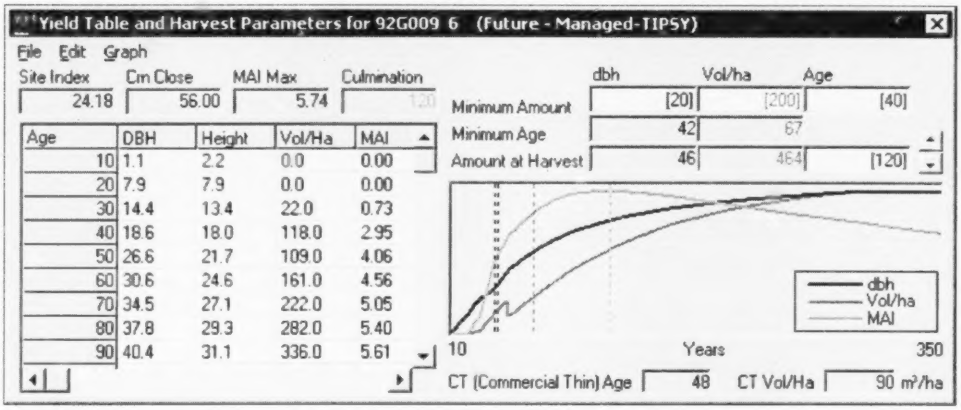
Select up to 6 species in order of dominance from the drop down button, or enter in the species code in the left column.
As of 1998, up to 32 species are recognized, and WOODLOT will recognize most of the old VDYP species codes that

This help feature is activated when you click on data boxes in the **Polygon Data** screen. The example above shows the help message displayed when you click on a species in VDYP.

If you click the <?> button, the message will be displayed in a larger help screen.

10.0 Yield Table and Harvest Parameters

The <View Existing Yield> function in the **Polygon Data** screen will activate the window shown below. This window displays all the **output data** generated by either VDYP or TIPSY, depending on the yield type used for the polygon. This will display the yield information used for harvesting the forest polygon.



Yield Table and Harvest Parameters for 92G009 6 (Future - Managed-TIPSY)

Site Index 24.18
Cm Close 56.00
MAI Max 5.74
Culmination 120

	dbh	Vol/ha	Age
Minimum Amount	[20]	[200]	[40]
Minimum Age	42	67	
Amount at Harvest	46	464	[120]

Age	DBH	Height	Vol/Ha	MAI
10	1.1	2.2	0.0	0.00
20	7.9	7.9	0.0	0.00
30	14.4	13.4	22.0	0.73
40	18.6	18.0	118.0	2.95
50	26.6	21.7	109.0	4.06
60	30.6	24.6	161.0	4.56
70	34.5	27.1	222.0	5.05
80	37.8	29.3	282.0	5.40
90	40.4	31.1	336.0	5.61

CT (Commercial Thin) Age 48
CT Vol/Ha 90 m³/ha

Harvest Parameters may also be adjusted for the polygon displayed in this screen. Changing the "Minimum Amount" numbers for dbh, vol/ha and Age will result in revisions to the minimum age required to reach those parameters, which will be displayed in the "Minimum Ages" boxes below. These ages are derived from the yield table at the left.

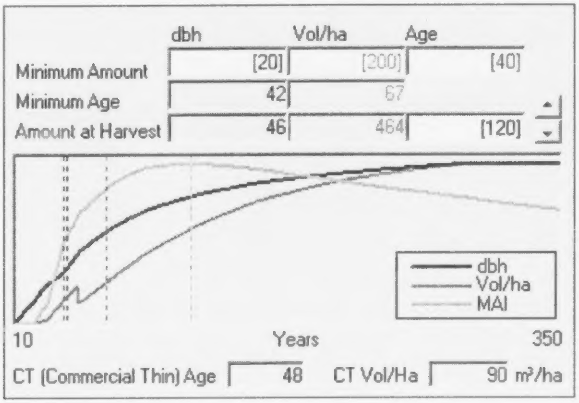
Changing this lower right age box can set the final polygon harvest age. This will be the age displayed in the Polygon Data screen.

10.1 Yield Table – Harvest Age Data

Harvest ages may be selected in the Yield Table window, which is linked to the Yield Type box in the Polygon Data screen. Harvest ages are displayed in the white data box next to the up/down scroll arrow. There are four ways of selecting a harvest age in this window:

1. WOODLOT will put in a harvest age based on the earliest age whereby all the harvest parameters have been met, and the culmination age has been reached.
2. Manually entering a harvest age.
3. Using the up and down arrows next to the harvest age to choose an appropriate age.
4. Clicking on the graph to choose a point on the graph where the harvest should take place.

There is also information displayed for the minimum harvest parameters of dbh, vol/ha and age, and resulting ages at which these will be reached. You may enter information on these variables in the white data boxes. WOODLOT will calculate the age and volume when these limits will be reached by recalculating the yield curves



	dbh	Vol/ha	Age
Minimum Amount	[20]	[200]	[40]
Minimum Age	42	67	
Amount at Harvest	46	464	[120]

CT (Commercial Thin) Age 48

CT Vol/Ha 90 m³/ha

10.1.1 dbh

[Default] values are updated directly from harvest parameters.
Acceptable Values: Positive integer

Enter the minimum dbh (diameter at breast height) that must be reached before this polygon can be harvested. The value beneath shows the age at which this dbh occurs; the value under that shows the dbh at harvest age.

10.1.2 Vol/ha

[Default] values are updated directly from harvest parameters.
Acceptable Values: Positive integer

Enter the minimum volume/ha that must be reached before this polygon can be harvested. The value beneath shows the age of the stand when this parameter is reached; the value under that shows the vol/ha at harvest age.

10.1.3 Age

[Default] values are updated directly from harvest parameters.
Acceptable Values: Positive integer

A minimum age for harvest may be entered here the polygon. Note that this value is used only to set a minimum harvest age below any other harvest parameter.

A polygon can be harvested below this minimum age if the harvest age has been manually set below the minimum age. In this case, a warning message will be reported during the calculation and in the report writer.

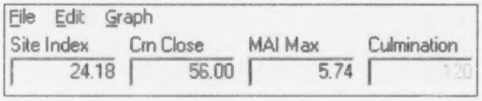
10.1.4 Harvest Age

[Default] values are calculated from the harvest parameters using the current yield table.
Acceptable Values: Positive integer

The value in this data box will be used as the harvest age for the specified polygon for calculating the harvest rate. Either use the minimum age derived from the above parameters, or manually enter a harvest age. The value shown will be in square brackets if it derived from WOODLOT, based upon the age at which the three minimum harvest parameters and the culmination age have been met.

10.2 Yield Table - Returned Data

The following data is displayed above the yield table. These are key resultant data generated by VDYP or TIPSY during yield calculations for the polygon.



Site Index	Crn Close	MAI Max	Culmination
24.18	56.00	5.74	120

These include:

- Site Index: site index (m) at breast height age 50
- Crn Close: Crown Closure % (VDYP only)
- MAI Max: culmination mai (m^3/ha/yr)
- Culmination: Culmination age (yrs).

This data cannot be edited directly.

10.2.1 Site Index

This displays the actual site index calculated by VDYP or TIPSY if a site index age and height pair were entered in the Polygon Data screen. This could be different than the Site Index manually entered for VDYP and TIPSY in the Polygon Data screen.

10.2.2 Crown Closure

Crown Closure applies to VDYP only; TIPSY does not use Crown Closure. The Crown Closure reported here would be the same as on the Polygon Data screen unless 0 was entered, or the site index was left blank and a site index age less than 50 was also entered. In the latter cases, a default Crown Closure will be calculated from VDYP, entered here, and used in generating the yield table. See Appendix 4 for default Crown Closures.

10.2.3 MAI Max

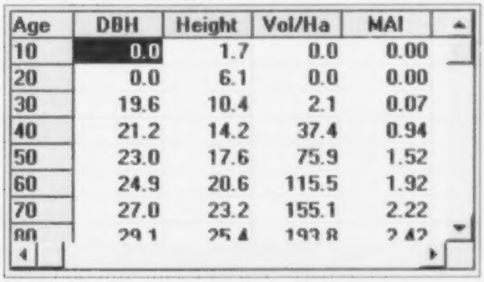
Maximum Mean Annual Increment in m^3/ha/yr. – This is the maximum average amount or growth per year. The age when MAI Max occurs is the culmination age.

10.2.4 Culmination

The age at which the MAI Max occurs. Theoretically, the best time to harvest based on maximum volume of wood.

10.3 Yield Table

The actual yield table is displayed as shown below. The age increment can be displayed in 1-10 year increments for VDYP, and in 10-year increments for TIPSY. When using VDYP, yields (vol/ha) are also reported for each species, and are displayed next to the MAI column.



Age	DBH	Height	Vol/Ha	MAI
10	0.0	1.7	0.0	0.00
20	0.0	6.1	0.0	0.00
30	19.6	10.4	2.1	0.07
40	21.2	14.2	37.4	0.94
50	23.0	17.6	75.9	1.52
60	24.9	20.6	115.5	1.92
70	27.0	23.2	155.1	2.22
80	29.1	25.4	193.8	2.42

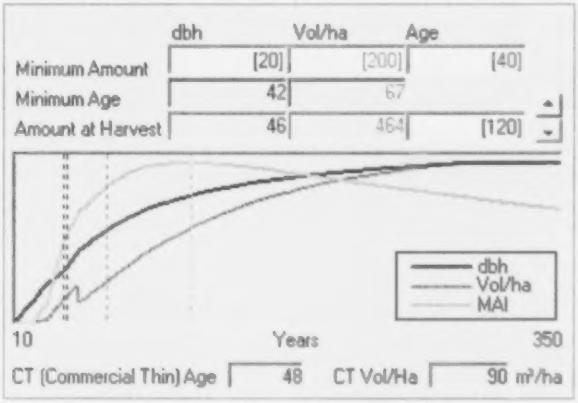
The data includes:

Column Heading	Description
Age	Age of the stand (yrs)
DBH	Diameter at Breast Height (cm)
Height	Height of the stand (m)
Vol / Ha	Total Volume / ha of polygon, excluding any netted out species (m^3/ha)
MAI	Mean Annual Increment (based on all species) (m^3/ha/yr)
Vol (1…6)	Volume / ha for each individual species (when turned on in extras) Vol (1) = largest % species; Vol (6) = least % species (m^3/ha)

10.4 Yield Graph

The graph shows all the minimum harvest ages and the culmination age as dashed vertical lines. The graph lines represent the dbh, Vol/ha and MAI as shown on the legend. The vertical lines represent the year at which the minimums above are reached.

The solid vertical yellow line represents the harvest age set for the polygon. This line may overlap the dashed line representing culmination age. This line can be moved by clicking anywhere on the graph, which will also update the harvest age.



	dbh	Vol/ha	Age
Minimum Amount	[20]	[200]	[40]
Minimum Age	42	67	
Amount at Harvest	46	464	[120]

CT (Commercial Thin) Age 48

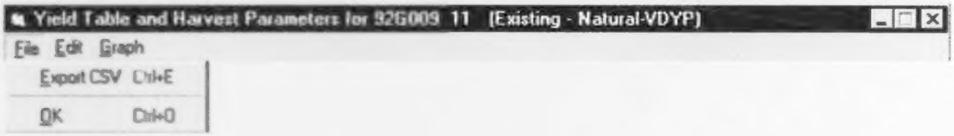
CT Vol/Ha 90 m³/ha

At the very bottom, the Commercial Thin year and volume to be recovered is displayed. Note the hook shape of the vol/ha curve as a result of commercial thinning.

10.5 Menu Items

Three menu items are provided to allow users to export and display information.

10.5.1 File Menu


Yield Table and Harvest Parameters for 92G009 11 (Existing - Natural-VDYP)
File Edit Graph
Export CSV Ctrl+E
OK Ctrl+O

10.5.1.1 Export CSV

Ctrl E Shortcut Key

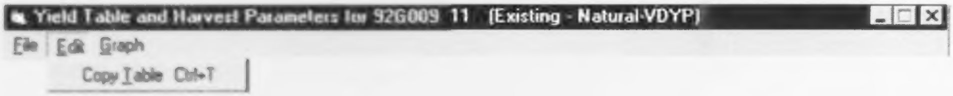
Saves the current yield table in a comma-delimited format. This file can then be imported to a spreadsheet such as Excel or any text editor.

10.5.1.2 OK

Ctrl O Shortcut Key

Closes the Yield table screen.

10.5.2 Edit Menu

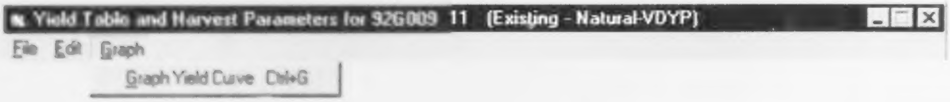

Yield Table and Harvest Parameters for 92G009 11 (Existing - Natural-VDYP)
File Edit Graph
Copy Table Ctrl+T

10.5.2.1 Copy Table

Ctrl T Shortcut Key

The Copy feature puts the current yield table onto the clipboard. The clipboard can then be pasted into a spreadsheet such as Excel or any text editor.

10.5.3 Graph Menu


Yield Table and Harvest Parameters for 92G009 11 (Existing - Natural-VDYP)
File Edit Graph
Graph Yield Curve Ctrl+G

10.5.3.1 Graph Yield Curve

Ctrl G Shortcut Key

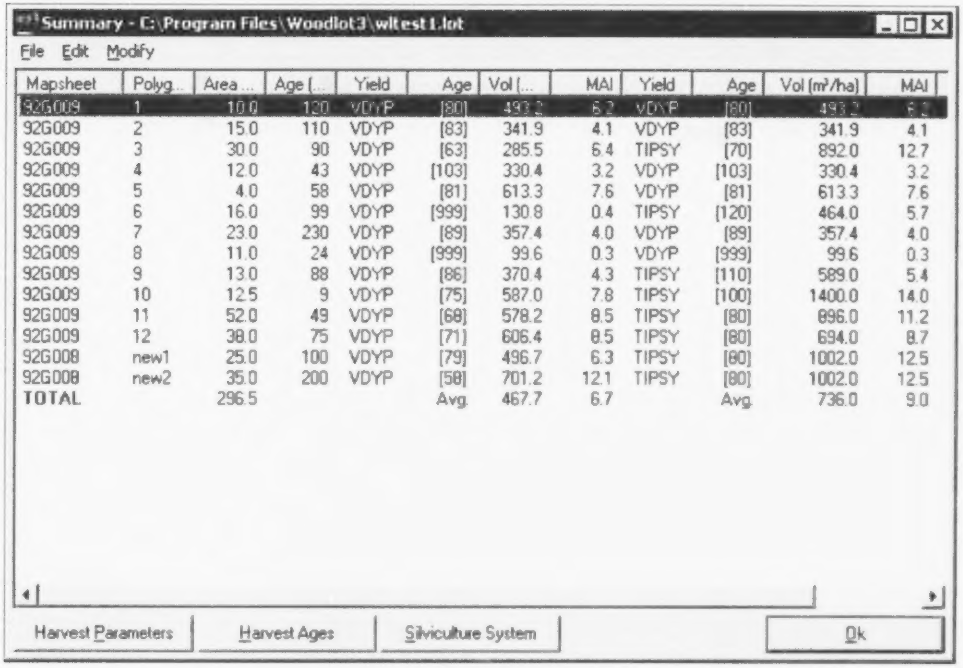
This feature allows you to display a large version of the yield curve on your screen for easier viewing.

11.0 Summary

The Summary screen is used to:

- display basic polygon information for a quick check
- adjust harvest parameters on the entire woodlot
- adjust the harvest ages for one or many polygons
- adjust the silviculture system for one or many polygons

Like other screens in WOODLOT, this also includes a menu for File, Edit and Modify features.



Mapsheet	Polyg...	Area ...	Age (...	Yield	Age	Vol (...	MAI	Yield	Age	Vol (m^3/ha)	MAI
92G009	1	10.0	120	VDYP	[80]	493.2	6.2	VDYP	[80]	493.2	6.2
92G009	2	15.0	110	VDYP	[83]	341.9	4.1	VDYP	[83]	341.9	4.1
92G009	3	30.0	90	VDYP	[63]	285.5	6.4	TIPSY	[70]	892.0	12.7
92G009	4	12.0	43	VDYP	[103]	330.4	3.2	VDYP	[103]	330.4	3.2
92G009	5	4.0	58	VDYP	[81]	613.3	7.6	VDYP	[81]	613.3	7.6
92G009	6	16.0	99	VDYP	[999]	130.8	0.4	TIPSY	[120]	464.0	5.7
92G009	7	23.0	230	VDYP	[89]	357.4	4.0	VDYP	[89]	357.4	4.0
92G009	8	11.0	24	VDYP	[999]	99.6	0.3	VDYP	[999]	99.6	0.3
92G009	9	13.0	88	VDYP	[86]	370.4	4.3	TIPSY	[110]	589.0	5.4
92G009	10	12.5	9	VDYP	[75]	587.0	7.8	TIPSY	[100]	1400.0	14.0
92G009	11	52.0	49	VDYP	[68]	578.2	8.5	TIPSY	[80]	896.0	11.2
92G009	12	38.0	75	VDYP	[71]	606.4	8.5	TIPSY	[80]	694.0	8.7
92G008	new1	25.0	100	VDYP	[79]	496.7	6.3	TIPSY	[80]	1002.0	12.5
92G008	new2	35.0	200	VDYP	[58]	701.2	12.1	TIPSY	[80]	1002.0	12.5
TOTAL		296.5			Avg.	467.7	6.7		Avg.	736.0	9.0

A few symbols are used as follows:

Symbol	Use on the Summary Screen
[ ]	Indicates that the harvest age is the default value, derived either from the culmination age or the age that was required to meet minimum harvest parameters.
<	Indicates that the harvest is occurring before culmination age.
>	Indicates that the harvest is occurring after culmination age.
*	Indicates that the minimum harvest parameters are not being met.

To edit information by polygon, click on one polygon. Multiple polygons may be highlighted for editing by holding down the Ctrl key or Shift key as you select polygons.

You may also resize the column widths by clicking on the column separator and dragging it over.

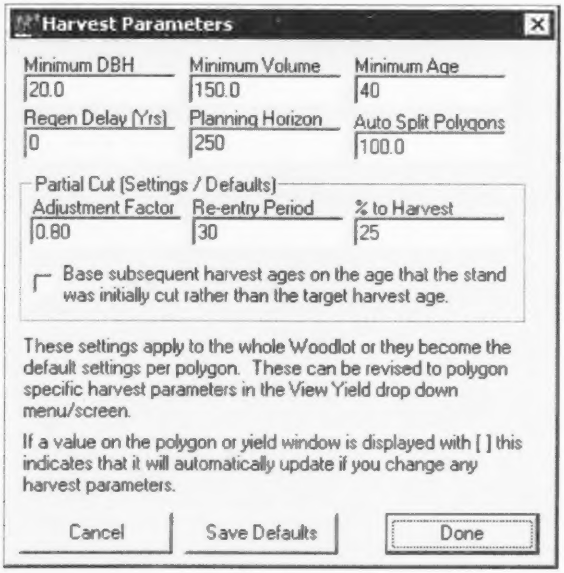
11.1 Description of Summary Columns

Summary information is provided for the following:

Variable Column		Description
COMMON	Mapsheet	Mapsheet entered in Polygon Data.
	ID	Polygon Number entered in Polygon Data.
	Area (ha)	Net area entered in Polygon Data.
	Age (yrs)	Current age of the stand entered in Polygon Data.
EXISTING MANAGEMENT	Yield	Existing Yield Type either VDYP, TIPSY, Non-Commercial or NSR.
	Harvest Age (yrs)	Target harvest age for the existing stand, calculated in or set in Polygon Data.
	Vol (m^3/ha)	Target harvest volume for the existing stand, calculated for the target harvest age from the yield curve in Polygon Data.
	MAI	Target mean annual increment (m^3/ha/yr) based on the target age and volume.
FUTURE MANAGEMENT	Y	Future Yield Type either VDYP or TIPSY.
	Harvest Age (yrs)	Target harvest age for the subsequent rotations, calculated in or set in Polygon Data.
	Vol (m^3/ha)	Target harvest volume for the subsequent rotations, calculated for the target harvest age from the yield curve in Polygon Data.
	MAI	Target mean annual increment (m^3/ha/yr) based on the target age and volume.
PARTIAL CUT	PC (%)	Target % volume removal (% below the target harvest age) for partial cut stands, set in Polygon Data.
	PC Reentry (yrs)	Target reentry period for subsequent partial cuts, set in Polygon Data.

11.2 Harvest Parameters

Harvest Parameters set the basic minimum harvest planning parameters for harvest calculations. They apply to the whole woodlot, including the harvest ages and the defaults for polygons set with ages or parameters denoted by [square brackets].



Minimum DBH: 20.0
Minimum Volume: 150.0
Minimum Age: 40
Regen Delay (Yrs): 0
Planning Horizon: 250
Auto Split Polygons: 100.0

Partial Cut (Settings / Defaults)
Adjustment Factor: 0.80
Re-entry Period: 30
% to Harvest: 25

☐ Base subsequent harvest ages on the age that the stand was initially cut rather than the target harvest age.

These settings apply to the whole Woodlot or they become the default settings per polygon. These can be revised to polygon specific harvest parameters in the View Yield drop down menu/screen.

If a value on the polygon or yield window is displayed with [ ] this indicates that it will automatically update if you change any harvest parameters.

WOODLOT will set the target harvest ages based on the older of the harvest age selected in Polygon Data, or the age at which the above harvest parameters are met.

These can be revised to polygon specific harvest parameters in the **Polygon Data** View Yield window. Refer to section *"10.0 Yield Table"* for more information on polygon specific harvest parameters.

11.2.1 Minimum DBH

The smallest diameter of dominant trees that is harvestable (cm). Enter the minimum diameter in cm when the stand can be harvested.

11.2.2 Minimum Volume

The lowest volume per hectare that is harvestable (m^3/ha). Enter the minimum volume in m^3/ha when the stand can be harvested.

11.2.3 Minimum Age

The earliest age at which you can harvest a polygon (yrs). Enter the minimum age in years when the stand can be harvested.

11.2.4 Regen Delay

The regeneration delay specifies the number of years to wait after harvesting a polygon before restarting the growth on the yield table. This is the default regeneration delay that will be used unless overridden in Polygon Data Yield Type (yrs)

11.2.5 Planning Horizon

The planning horizon used for harvest rate calculations (yrs). You can adjust the planning horizon used in WOODLOT with this feature. Normally this will be set to 250 years, based on MOF policy. Modeling should correspond to the time estimated for two or more rotations of timber.

11.2.6 Auto Split Polygons

Splitting polygons can help smooth out the availability of volume in future rotations and therefore increase your AAC. The auto split polygons value should generally be set to 10ha as a maximum size; smaller polygons approximating each annual harvest will provide the smoothest harvest flow. Use a value larger than your largest polygon to disable the feature completely.

11.2.7 Partial Cut Adjustment Factor (PCAF) (Range: 0.1 to 1.9)

The Partial Cut Adjustment Factor (PCAF) is be used in the estimation of ingrowth for the woodlot. For information on the use of partial cut features in WOODLOT, refer to section *"9.8.3 Partial Cut"*.

The default PCAF used in WOODLOT is 0.8. This returns 80% of the expected in-growth volume in the second and subsequent entries (i.e. 20% of the expected in-growth is not used in the subsequent harvest calculations). It was established based on a review of yields from partially cut stands in PROGNOSIS BC, in the absence of partial cut yield curves for the province.

A partial cut adjustment factor is required to account for the variability of in-growth in partially cut stands. WOODLOT uses yield information derived from the yield model VDYP, and assumes that the new, partially cut stand will be similar to a thrifty, natural, unmanaged, younger stand. The PCAF reflects the assumption that a period of time will be required for the partially cut stand to recover to produce at the same rate as it originally did. This time lag is assumed to result in a reduction of net merchantable volume production over the fully stocked, uninterrupted growth of the natural stand that the yield curve is derived for.

The PCAF should not be adjusted unless you have consulted the Ministry of Forests, Resource Tenures and Engineering Branch.

11.2.8 Partial Cut % to Harvest

This is the removal percent (%) that will be used on the first entry for the woodlot licence to establish the residual volume of the polygon (unless overridden in the Polygon or Summary Screens). Note that the actual volume removed will depend on the order selected in the Calculation Screen and the actual position in the queue of polygons. As the actual re-entry start time may be delayed a few years while another polygon is being harvested, a resultant higher initial harvesting volume may be used in the calculation. The model will accept figures within a range of 1 – 50%.

The volume removed on subsequent entries will be based on the in-growth of the residual, standing volume remaining after the time of first entry.

For information on partial cut features in WOODLOT, refer to section *"9.8.3 Partial Cut"*.

11.2.9 *Partial Cut Re-entry Period*

This is the re-entry period that will be used for the second and subsequent entries for partial cutting operations in the woodlot licence (unless overridden in the Polygon Data or Summary Screens). Note that the start of the actual re-entry period will depend on the order selected in the Calculation Screen and the actual position in the queue of polygons. The actual re-entry start time may be delayed a few years while another polygon is being harvested. The model will accept figures within a range of 1 – 50 years.

For information on the use of partial cut features in WOODLOT, refer to section *"9.8.3 Partial Cut"*.

11.2.10 *Done Button*

Once you have made changes, click the Done button to save changes and move to the Summary Screen.

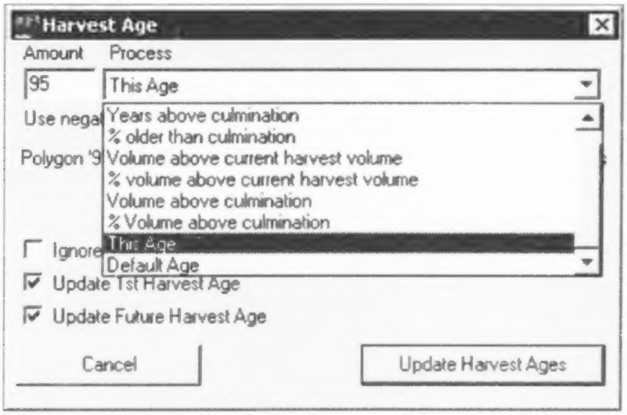
11.2.11 *Save Defaults Button*

If you would like to save the harvest parameters for use as defaults in all polygons, click on this button. Defaults will automatically update harvest parameters in the View Yield window.

11.3 Harvest Ages

You may adjust the harvest ages by polygon with this screen. Ensure that you check on the Ignore Harvest Parameters feature when updating ages if you wish the selected age to override the minimum harvest parameters.

To adjust harvest ages, select the polygons you would like to adjust by clicking on them (the **Summary** screen will highlight the polygons that will be updated), then click open on the <Harvest Ages> button.



Amount: 95

Process: This Age

☐ Ignore

☑ Update 1st Harvest Age

☑ Update Future Harvest Age

Harvest Age
Use nega
Polygon '9
Years above culmination
% older than culmination
Volume above current harvest volume
% volume above current harvest volume
Volume above culmination
% Volume above culmination
This Age
Default Age
Cancel
Update Harvest Ages

11.3.1 *Ignore Harvest Parameters Checkbox*

The internal updating features in WOODLOT will check to make sure that all harvest parameters are still met. You may have WOODLOT ignore the harvest parameters you have set by clicking on this feature. This is required to be checked on if you use the age updating features, to force harvest ages lower than minimums set by harvest parameters.

11.3.2 Update 1st Harvest Age Checkbox

When checked the first harvest ages of selected polygons will be updated by the amount and process select above.

11.3.3 Update Future Harvest Age Checkbox

When checked the future harvest ages of selected polygons will be updated by the amount and process select above.

11.3.4 Amount

This is the age you wish to set, or the amount you wish to increase or decrease the harvest age by. Use negative numbers to decrease the harvest age (e.g. entering "-10" for amount and "Years above current harvest age" would reduce the harvest age of selected polygons by 10 years), and positive numbers to increase the harvest age.

In the above example, the selected polygons would be harvested at 95 years age. This age will override the previously set target harvest age on the Polygon Data screen.

11.3.5 Process

Process Name	Description
Years above current harvest age	Increases or decrease the harvest age by amount specified.
Years above culmination	Change harvest age to culmination +/- amount specified.
% older than culmination	Change harvest age by a percent more or less than culmination.
Volume above current harvest volume	Increase or decreases harvest age by requiring more or less volume for harvesting
% volume above current harvest volume	% Increase or decreases harvest age by requiring more or less volume for harvesting
Volume above culmination	Increase or decreases harvest age by requiring more or less volume for harvesting relative to culmination.
% Volume above culmination	% Increase or decreases harvest age by requiring more or less volume for harvesting relative to culmination.
This Age	**Sets the harvest age to the amount specified**
Default Age	Back to the default age specified by harvest parameters

11.3.6 Update Harvest Ages Button

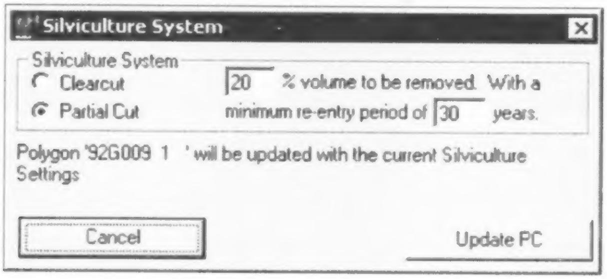
You can activate changes by clicking the Update Harvest Ages button. This will revise all polygons you have selected in the Summary Screen.

11.4 Silviculture System

You may adjust the silviculture systems by polygon in WOODLOT with this screen.

To adjust the silviculture system, select the polygons you would like to adjust by clicking on them (the **Summary** screen will highlight the polygons that will be updated), then click open on the <Silviculture System> button.

Please see *"9.8 Silviculture System"* for more information.



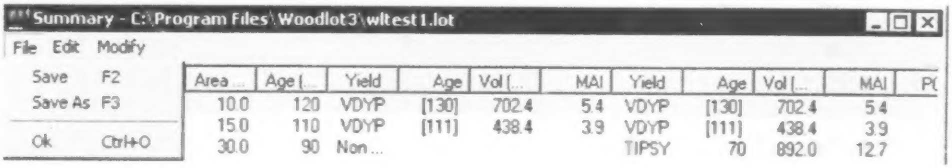
Silviculture System
○ Clearcut
● Partial Cut
20 % volume to be removed. With a minimum re-entry period of 30 years.

Polygon '92G009 1 ' will be updated with the current Silviculture Settings

11.4.1 Update PC Button

Activate changes by clicking the Update PC button. This will revise all polygons you have selected in the Summary Screen.

11.5 File menu



Area ...	Age (...	Yield	Age	Vol (...	MAI	Yield	Age	Vol (...	MAI	P(
10.0	120	VDYP	[130]	702.4	5.4	VDYP	[130]	702.4	5.4	
15.0	110	VDYP	[111]	438.4	3.9	VDYP	[111]	438.4	3.9	
30.0	90	Non ...				TIPSY	70	892.0	12.7	

11.5.1 Save

F2 Shortcut Key

Save the current file with the current file name. If there is not a current file name the Save As dialog box will appear asking for the new file name.

SAVEAS

F3 Shortcut Key

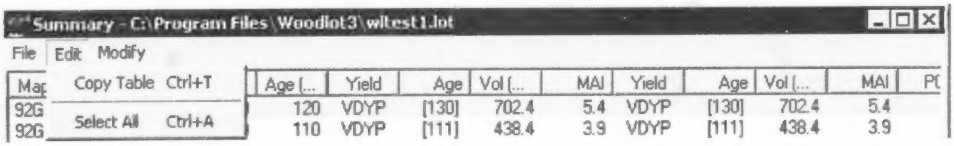
Saves the current file with a new filename and/or a new location. The file will be saved in the current version's format.

11.5.2 Ok

Ctrl O Shortcut Key

This item will close the polygon window and open the main menu.

11.6 Edit menu


Summary - C:\Program Files\Woodlot3\wltest1.lot
File
Edit
Modify
Copy Table Ctrl+T
Select All Ctrl+A

Map	Age (...	Yield	Age	Vol (...	MAI	Yield	Age	Vol (...	MAI	PC
92G	120	VDYP	[130]	702.4	5.4	VDYP	[130]	702.4	5.4	
92G	110	VDYP	[111]	438.4	3.9	VDYP	[111]	438.4	3.9	

11.6.1 Copy Table

Ctrl C Shortcut Key

Puts the summary data on the "clipboard", which can then be pasted into a spreadsheet or document. A spreadsheet will automatically match column headings, while it will be necessary to convert the text to tables for a document.

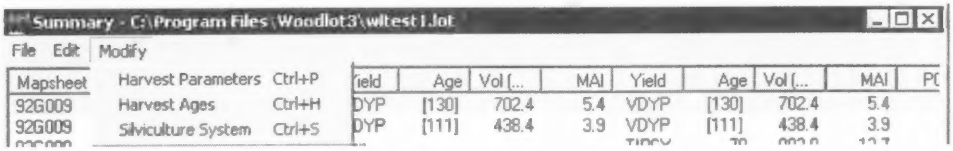
11.6.2 Select All

Ctrl A Shortcut Key

Selects and highlights all polygons for editing silviculture systems and harvest age.

11.7 Modify Menu

The Modify menu will allow you to access the same screens shown at the bottom of the **Summary** screen using the keystrokes shown in the menu.


Summary - C:\Program Files\Woodlot3\wltest1.lot
File
Edit
Modify
Harvest Parameters Ctrl+P
Harvest Ages Ctrl+H
Silviculture System Ctrl+S

Mapsheet	ield	Age	Vol (...	MAI	Yield	Age	Vol (...	MAI	PC
92G009	DYP	[130]	702.4	5.4	VDYP	[130]	702.4	5.4	
92G009	DYP	[111]	438.4	3.9	VDYP	[111]	438.4	3.9	

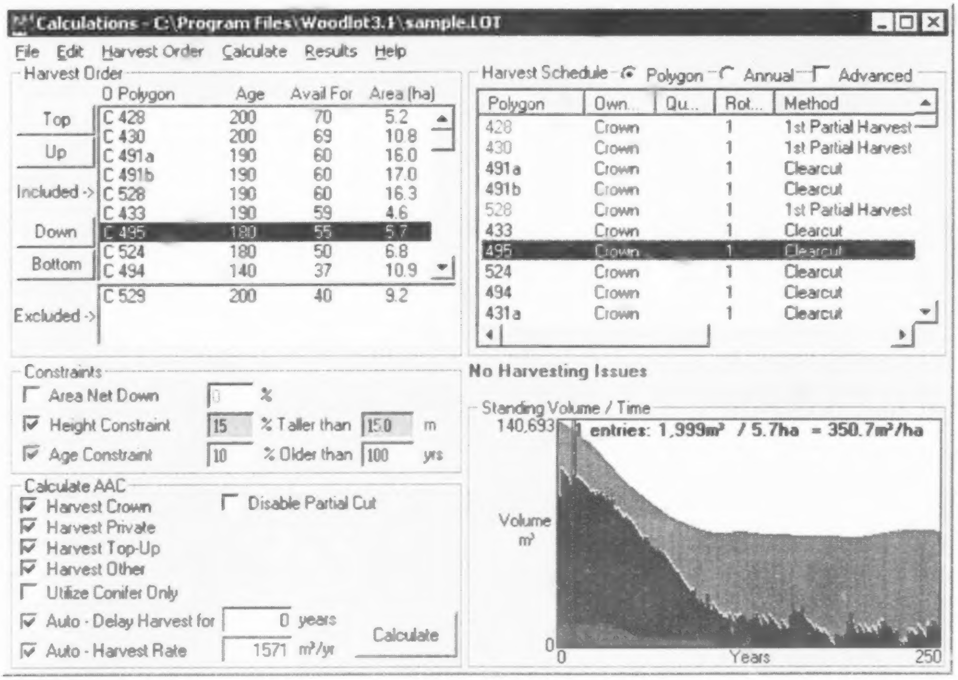
12.0 Calculation

The **Calculations** screen is used to perform harvest rate calculations, used to support an AAC determination by the district manager.

An iterative calculation is performed on all polygons identified in the Harvest Order. A harvest rate is calculated over the planning horizon (usually 250 years.) Calculations are carried out using forest polygon yield and management information compiled from the **Polygon Data** screen.

Basic functions discussed below include:

- Application menu bar with ***File, Edit, Harvest Order**, **Calculate, Results** and **Help***
- Harvest Order
- Constraints
- Calculate AAC
- Harvest schedule
- Standing Time/Volume Graph


Calculations - C:\Program Files\Woodlot3.1\sample.LOT
File
Edit
Harvest Order
Calculate
Results
Help
Top
Up
Included ->
Down
Bottom
Excluded ->
Calculate
Standing Volume / Time
140,693
Volume m³
0
0
Years
250

Harvest Order

	0 Polygon	Age	Avail For	Area (ha)
Included ->	C 428	200	70	5.2
	C 430	200	69	10.8
	C 491a	190	60	16.0
	C 491b	190	60	17.0
	C 528	190	60	16.3
	C 433	190	59	4.6
	C 495	180	55	5.7
	C 524	180	50	6.8
	C 494	140	37	10.9
Excluded ->	C 529	200	40	9.2

Harvest Schedule ● Polygon ○ Annual ☐ Advanced

Polygon	Own...	Qu...	Rot...	Method
428	Crown		1	1st Partial Harvest
430	Crown		1	1st Partial Harvest
491a	Crown		1	Clearcut
491b	Crown		1	Clearcut
528	Crown		1	1st Partial Harvest
433	Crown		1	Clearcut
495	Crown		1	Clearcut
524	Crown		1	Clearcut
494	Crown		1	Clearcut
431a	Crown		1	Clearcut

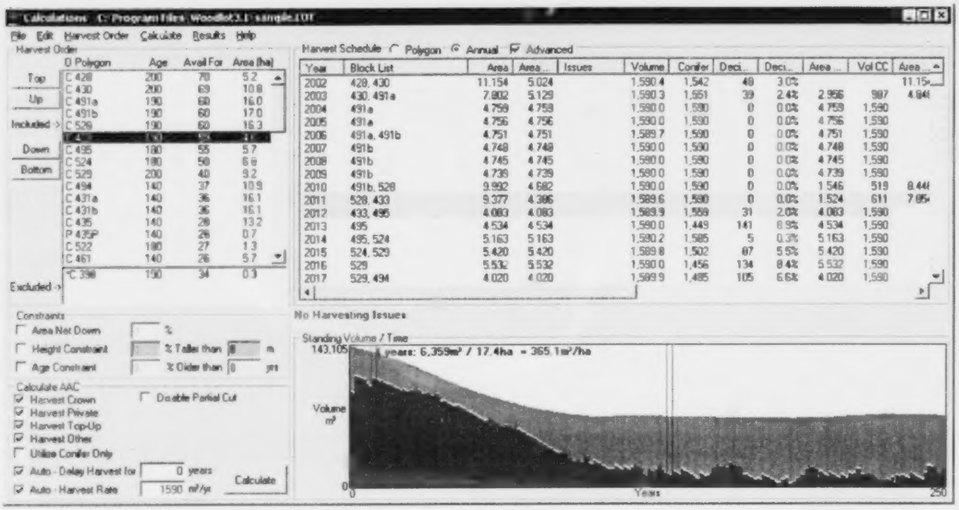
Constraints
☐ Area Net Down 0 %
☑ Height Constraint 15 % Taller than 15.0 m
☑ Age Constraint 10 % Older than 100 yrs

Calculate AAC
☑ Harvest Crown
☑ Harvest Private
☑ Harvest Top-Up
☑ Harvest Other
☐ Utilize Conifer Only
☐ Disable Partial Cut
☑ Auto - Delay Harvest for 0 years
☑ Auto - Harvest Rate 1571 m³/yr

No Harvesting Issues

entries: 1,999m³ / 5.7ha = 350.7m³/ha

A new feature in WOODLOT 3.0 / 3.1 allows users to resize the **Calculations** screen to allow you to view more of the data. Click on the edge or corner of the screen to resize it:



0 Polygon	Age	Avail For	Area (ha)
C 428	200	70	5.2
C 430	200	69	10.8
C 491a	190	60	16.0
C 491b	190	60	17.0
C 528	190	60	16.3
[illegible]	190	[illegible]	[illegible]
C 495	180	55	5.7
C 524	180	50	6.6
C 529	200	40	9.2
C 494	140	37	10.9
C 431a	140	36	16.1
C 431b	140	36	16.1
C 435	140	28	13.2
P 435P	140	28	0.7
C 522	180	27	1.3
C 461	140	26	5.7
°C 398	150	34	0.3

Harvest Schedule ○ Polygon ● Annual ☑ Advanced

Year	Block List	Area	Area ...	Issues	Volume	Conifer	Deci...	Deci...	Area ...	Vol CC	Area ...
2002	428, 430	11.154	5.024		1,590.4	1,542	48	3.0%			11.15
2003	430, 491a	7.802	5.129		1,590.3	1,551	39	2.4%	2.956	907	4.84
2004	491a	4.759	4.759		1,590.0	1,590	0	0.0%	4.759	1,590	
2005	491a	4.756	4.756		1,590.0	1,590	0	0.0%	4.756	1,590	
2006	491a, 491b	4.751	4.751		1,589.7	1,590	0	0.0%	4.751	1,590	
2007	491b	4.748	4.748		1,590.0	1,590	0	0.0%	4.748	1,590	
2008	491b	4.745	4.745		1,590.0	1,590	0	0.0%	4.745	1,590	
2009	491b	4.739	4.739		1,590.0	1,590	0	0.0%	4.739	1,590	
2010	491b, 528	9.992	4.682		1,590.0	1,590	0	0.0%	1.546	519	8.44
2011	528, 433	9.377	4.386		1,589.6	1,590	0	0.0%	1.524	611	7.85
2012	433, 495	4.083	4.083		1,589.9	1,559	31	2.0%	4.083	1,590	
2013	495	4.534	4.534		1,590.0	1,449	141	8.9%	4.534	1,590	
2014	495, 524	5.163	5.163		1,590.2	1,585	5	0.3%	5.163	1,590	
2015	524, 529	5.420	5.420		1,589.8	1,502	87	5.5%	5.420	1,590	
2016	529	5.532	5.532		1,590.0	1,456	134	8.4%	5.532	1,590	
2017	529, 494	4.020	4.020		1,589.9	1,485	105	6.6%	4.020	1,590	

No Harvesting Issues

years: 6,359m³ / 17.4ha = 365.1m³/ha

Constraints
☐ Area Net Down %
☐ Height Constraint % Taller than 8 m
☐ Age Constraint % Older than 0 yrs

Calculate AAC
☑ Harvest Crown
☐ Disable Partial Cut
☑ Harvest Private
☑ Harvest Top-Up
☑ Harvest Other
☐ Utilize Conifer Only
☑ Auto - Delay Harvest for 0 years
☑ Auto - Harvest Rate 1590 m³/yr

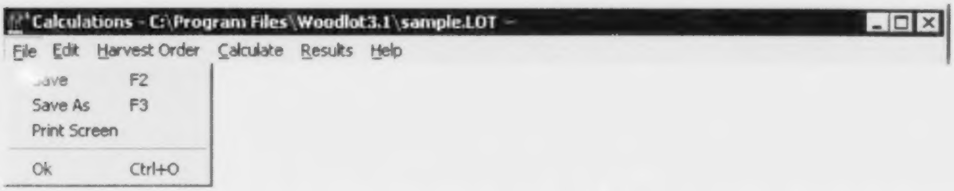
12.1 Harvest Rate Calculations

To conduct a calculation, follow these steps. Details are provided in the following sections on how to use the features in the **Calculation** screen.

Step	Action	Area in WOODLOT to carry out the action
1. Assemble Forest Polygon Information	Enter all polygon data, calculate yield curves, check harvest ages in Polygon Data screen	Polygon Data screen
2. Sort the Harvest Order	Arrange your polygons in the order that you want them harvested in the first rotation	Harvest order section in Calculation screen
3. Add Constraints	Click on Height or Age constraints, or add an area netdown.	Constraints section in Calculation screen
4. Calculate the harvest rate	Ensure that the appropriate checkboxes are turned on, click Calculate button	Calculate AAC section in Calculation screen
5. Review results	View the Harvest Schedule	Harvest Schedule section in Calculation screen
6. Review results	View the Standing Volume/Time graph	Standing Volume/Time section in Calculation screen
7. Conduct Sensitivity Analysis on the results	Adjust harvest rate up and recalculate (with the Auto Harvest checkbox turned off) to find out which polygons are most sensitive; view the Harvest Schedule and Standing Volume/Time graph; adjust the polygon harvest age or queue and retest until you reach an optimal harvest forecast.	Calculate AAC section in Calculation screen
8. Optimal sustainable harvest rate	Optimal harvest rate will occur when you minimize the mature volume and the total volume curve approaches a flat line. This indicates a sustainable harvest over 250 yrs.	Standing Volume/Time section in Calculation screen

12.2 File Menu

The File menu is used to access saving features in WOODLOT.


Calculations - C:\Program Files\Woodlot3.1\sample.LOT
File
Edit
Harvest Order
Calculate
Results
Help
Save F2
Save As F3
Print Screen
Ok Ctrl+O

12.2.2 Save As

F3 Shortcut Key

Saves the current file with a new filename and/or a new location. The file will be saved in the current version's format, in a ".lot" file format.

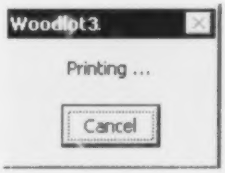
12.2.3 Ok

Ctrl O Shortcut Key

This item will close the polygon window and open the main menu.

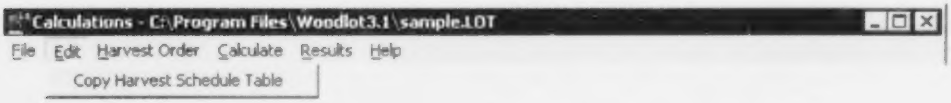
12.2.4 Print Screen feature

Click this feature if you wish to make a print of the screen that you are working on. The following message box appears, an impression of the screen is made and is automatically sent to your printer. This is useful if you wish to make a copy of certain screens for a reference.


Woodlot3
Printing ...
Cancel

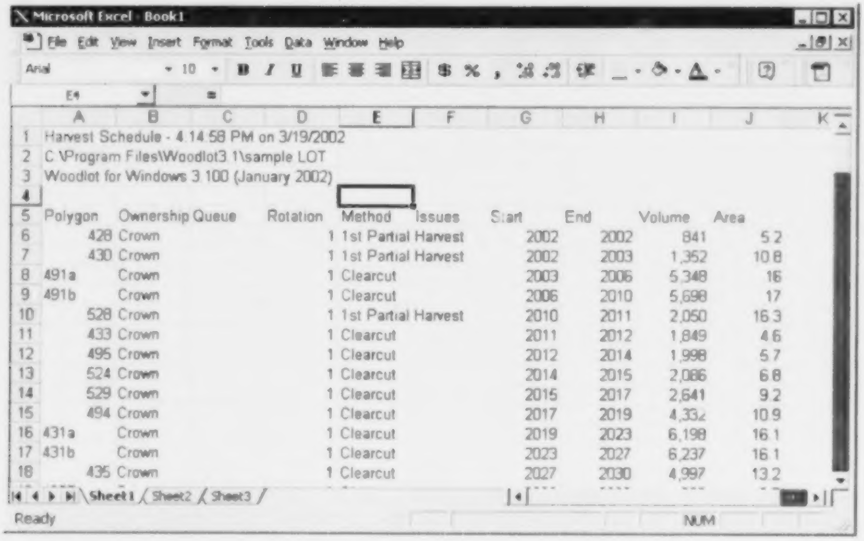
12.3 Edit Menu

The Edit menu is used to copy the data displayed in the harvest schedule to another program, such as Excel or Word, for printing.


Calculations - C:\Program Files\Woodlot3.1\sample.LOT
File
Edit
Harvest Order
Calculate
Results
Help
Copy Harvest Schedule Table

12.3.1 Copy Harvest Schedule Table

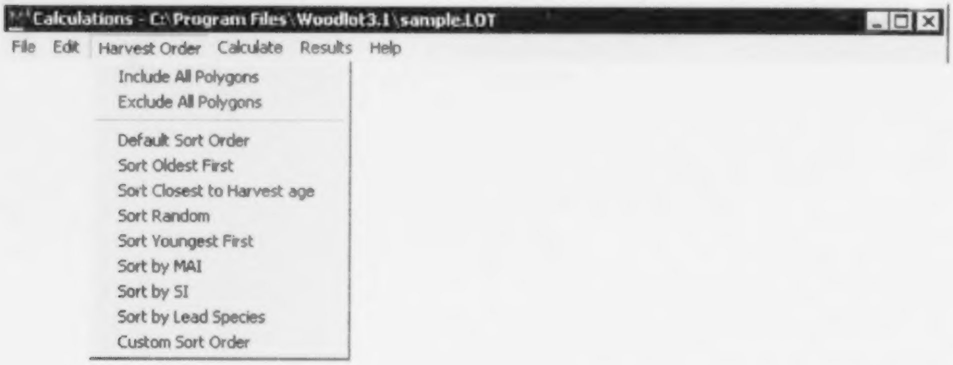
Click on Copy Harvest Schedule Table, then paste to another program to display a formatted table for intermediate review work.


Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help
Arial 10
E4 =
Sheet1 Sheet2 Sheet3
Ready
NUM

Harvest Schedule - 4:14:58 PM on 3/19/2002
C:\Program Files\Woodlot3.1\sample.LOT
Woodlot for Windows 3.100 (January 2002)

Polygon	Ownership	Queue	Rotation	Method	Issues	Start	End	Volume	Area
428	Crown		1	1st Partial Harvest		2002	2002	841	5.2
430	Crown		1	1st Partial Harvest		2002	2003	1,352	10.8
491a	Crown		1	Clearcut		2003	2006	5,348	16
491b	Crown		1	Clearcut		2006	2010	5,698	17
528	Crown		1	1st Partial Harvest		2010	2011	2,050	16.3
433	Crown		1	Clearcut		2011	2012	1,849	4.6
495	Crown		1	Clearcut		2012	2014	1,998	5.7
524	Crown		1	Clearcut		2014	2015	2,086	6.8
529	Crown		1	Clearcut		2015	2017	2,641	9.2
494	Crown		1	Clearcut		2017	2019	4,332	10.9
431a	Crown		1	Clearcut		2019	2023	6,198	16.1
431b	Crown		1	Clearcut		2023	2027	6,237	16.1
435	Crown		1	Clearcut		2027	2030	4,997	13.2

12.4 Harvest Order Menu


Calculations - C:\Program Files\Woodlot3.1\sample.LOT
File
Edit
Harvest Order
Calculate
Results
Help
Include All Polygons
Exclude All Polygons
Default Sort Order
Sort Oldest First
Sort Closest to Harvest age
Sort Random
Sort Youngest First
Sort by MAI
Sort by SI
Sort by Lead Species
Custom Sort Order

You may sort the polygons for sequencing their harvest using this feature. The harvest calculation will occur based on the order shown in Harvest Order. WOODLOT initially loads polygons into the Calculations screen in the order they appear in Polygon Data. You may then sort them by selecting an order from this pick list.

NOTE: Each time you create a sort, the subsequent list will have been "progressively sorted" based on the order that they are currently displayed in the Harvest Order screen. If you select Oldest First then Closest to Harvest Age, this order will differ from just Closest to Harvest Age. If you wish to replicate an original sort order from the list, first select Default Sort Order to reset back to the original list, then select the sort you wish.

Using the Sort Random option will produce results that will be impossible to replicate since the starting point will be different for each sort.

The sort order you choose should approximate the pattern that you will harvest. In the absence of a defined harvest schedule, the best way to sort Woodlots is by either oldest first or closest to harvest age. Then promote polygons in your development plan to the top of the list (see *"12.7"Harvest Order"*).

12.4.1 Include/Exclude All Polygons

Use these features to include or exclude all of your polygons to test options.

12.4.2 Sort Oldest first

Use this feature to sort your polygons for harvest by oldest first.

12.4.3 Sort Closest to Harvest Age

Use this feature to sort your polygons for harvest by closest to their harvest age.

12.4.4 Default Sort Order

Use this feature to restore the order to the original order for harvest calculations. The original order is the order displayed in Polygon Data.

12.4.5 Sort Random

This option will not give the same results each time it is selected. This option should only be used for testing.

12.4.6 Sort Youngest First

This method sorts polygons from youngest to oldest.

12.4.7 Sort By MAI

This method sorts the polygons with the largest Mean Annual Increments being placed at the top.

12.4.8 Sort By SI

This method sorts the polygons with the highest site index being placed at the top.

12.4.9 Sort By Lead Species

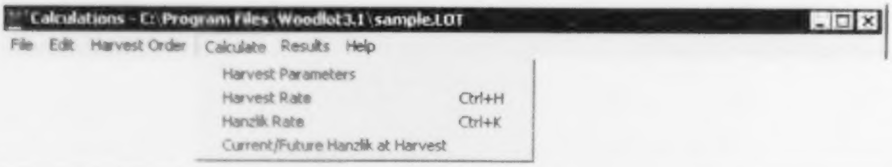
When selected this option will display a screen prompting the user to select the order of lead species to harvest first.

12.4.10 Custom Sort Order

This option doesn't change the sort order when selected. Woodlot will automatically select this option to show the user when the sort order has been manual adjusted.

12.5 Calculate

You may run your calculations using this menu. The preferred method is to click the Calculate button at the bottom of the screen.



You can also generate a Hanzlik calculation to compare against. The Hanzlik method was used in the early days of yield regulation. Calculations are very simplistic, only suited to areas with a preponderance of mature timber, with no allowances for spatial or temporal constraints, or changes in yields over time due to management. Generally, these calculations are not used for timber supply analysis on large management units. They may serve as a comparison on smaller units in some cases.

12.5.1 Harvest Parameters

Select on this feature to adjust the harvest parameters that apply to the whole woodlot while doing harvest calculations. Harvest ages will be automatically updated to reflect any changes made here. Refer to section *"11.2 Harvest Parameters"* for details on how harvest parameters work.

12.5.2 Harvest Rate

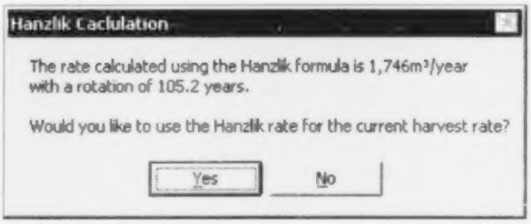
Ctrl A Shortcut Key

You may run the harvest calculation using this menu selection, which is the same a clicking the Calculate button on the lower portion of the Calculation screen.

12.5.3 Hanzlik Rate

Ctrl K Shortcut Key

To determine a quick Hanzlik calculated harvest rate on the first rotation, use this feature.



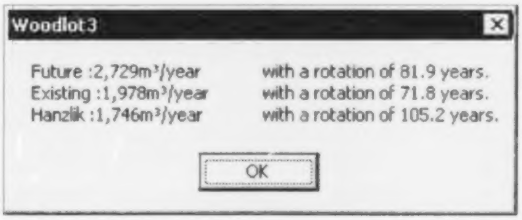
Hanzlik Caclulation

The rate calculated using the Hanzlik formula is 1,746m³/year with a rotation of 105.2 years.

Would you like to use the Hanzlik rate for the current harvest rate?

12.5.4 Current/Future Hanzlik at Harvest

To determine a quick Hanzlik calculated harvest rate on subsequent rotations, use this feature.

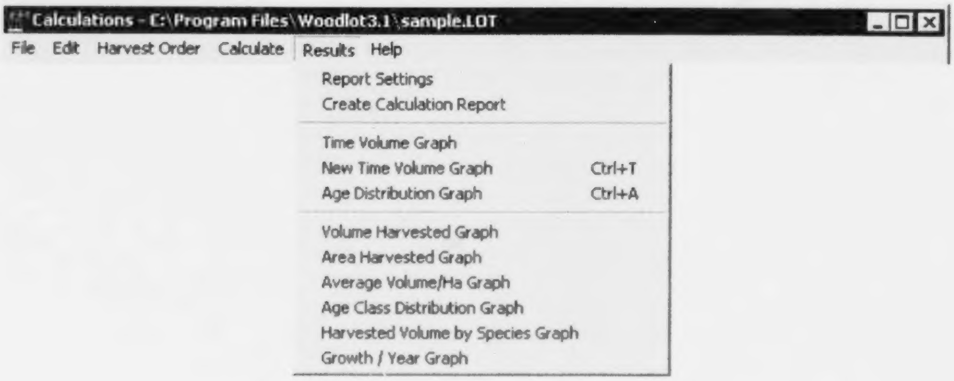


Woodlot3

Future :2,729m³/year with a rotation of 81.9 years.
Existing :1,978m³/year with a rotation of 71.8 years.
Hanzlik :1,746m³/year with a rotation of 105.2 years.

12.6 Results

Many graphs and reports can now be created from the calculation screen in WOODLOT.


Calculations - C:\Program Files\Woodlot3.1\sample.LOT
File
Edit
Harvest Order
Calculate
Results
Help
Report Settings
Create Calculation Report
Time Volume Graph
New Time Volume Graph Ctrl+T
Age Distribution Graph Ctrl+A
Volume Harvested Graph
Area Harvested Graph
Average Volume/Ha Graph
Age Class Distribution Graph
Harvested Volume by Species Graph
Growth / Year Graph

Refer to section *"13.0 Calculation* Results" for details on the generating calculation reports and graphs.

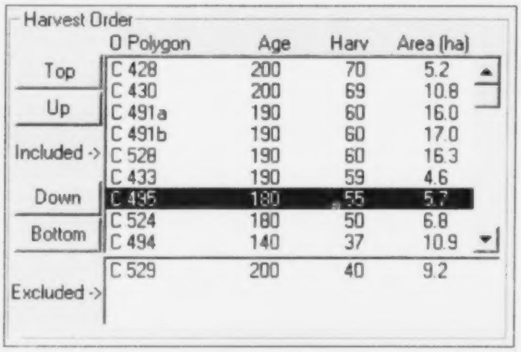
12.7 Harvest Order

The harvest order screen displays the polygons and some basic information in the order in which they will be scheduled for harvest.

The order that they are displayed in the "Included" section is the order in which they will be harvested. They will be excluded from harvesting if they are displayed in the "Excluded" section. The initial order will be the same as the order in which you entered them in the **Polygon Data** screen.

This harvest order may be modified:

- by changing the sort order using the features described in section *"12.4 Harvest Order"*.
- using the Top, Up, Down, Bottom buttons to move polygons around. This should be used to reflect the operational factors such as access, disease centers and items shown in a forest development plan.


Harvest Order
Top
Up
Included ->
Down
Bottom
Excluded ->

0 Polygon	Age	Harv	Area (ha)
C 428	200	70	5.2
C 430	200	69	10.8
C 491a	190	60	16.0
C 491b	190	60	17.0
C 528	190	60	16.3
C 433	190	59	4.6
C 495	180	55	5.7
C 524	180	50	6.8
C 494	140	37	10.9
C 529	200	40	9.2

The information variables displayed are:

Column Variable Name	Description
O	Ownership from **Polygon Data**: C= Crown, P= Private, T= Top up, O= Other
Polygon	Polygon number or name from **Polygon Data**
Age	Current Age of the polygon (years) from **Polygon Data.**
Harv	Number of years that the polygon has been available for harvest. Positive numbers refer to years past harvest age; Negative numbers refer to years before harvest age. For example, polygon 495 is 180 years old, and has been ready for harvest for 55 yrs (meaning that the target harvest age is 125 yrs.)
Area (ha)	Net operable area of the polygon from **Polygon Data** before road netdowns.

12.7.1 Included Polygons

All polygons listed in the "Included" box will be used in the harvest rate calculations. To exclude a polygon, double click on it, and it will be stored in the "Excluded" list until required for a subsequent calculation.

12.7.2 Excluded Polygons

None of the polygons listed in the "Excluded" box will be used in the harvest rate calculations. To exclude a polygon, double click on it. To re-include a polygon, double click on it (or right click) and it will be moved to the *bottom* of the "Included" list for a subsequent calculation. This polygon may then be re-sorted with the others in the Included list.

Polygons will be placed in the Excluded box by WOODLOT if they are missing yield information to eliminate the possibility of the program crashing.

12.7.3 Up / Down

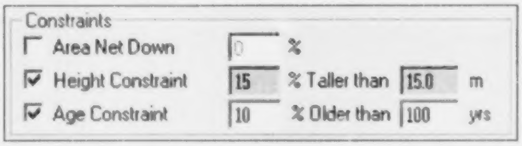
You may move a polygon's order for harvest by selecting the polygon and clicking on the Up or Down buttons. This will move the polygon one position up or down.

12.7.4 Top / Bottom

You may move a polygon's order for harvest by selecting the polygon and clicking on the Top or Bottom buttons. This will move the polygon to the top or the bottom of the list.

12.8 Constraints

Activate constraints by clicking on the desired checkboxes. Constraints apply to the entire woodlot.



☐ Area Net Down 0 %
☑ Height Constraint 15 % Taller than 15.0 m
☑ Age Constraint 10 % Older than 100 yrs

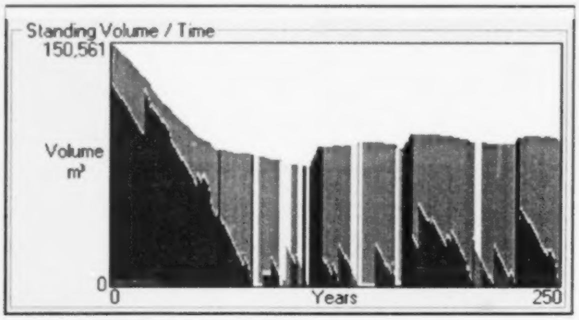
Choose one or all of the constraints for Area Netdown, Height Constraint or Age Constraint. Multiple constraints will act as a cumulative constraint. Constraints are measured as a % of the total area with contributing species entered into the Polygon Data screen, and listed in the harvest order.

You can analyze your woodlot in one of three ways for constraints:

Option	Action Required	Result
1. No Constraints	Ensure that all check boxes are blank	Harvest rate will be calculated with no constraints.
2. Automatic Constraints	• Click on the check boxes desired and fill in the constraint variables • Select Auto-Harvest Rate • Click Calculate button	The harvest calculation will account for constraints you have set, and may reduce the harvest rate accordingly.
3. Manual Override Constraints	• Click on the check boxes desired and fill in the constraint variables • De-select Auto-Harvest Rate • Enter your own harvest rate in the m³/yr box • Click Calculate button • Observe the Standing Volume/Time graph and list of errors	The harvest calculation will override the constraints and the harvest schedule and graph will indicate for you when constraints will be exceeded.

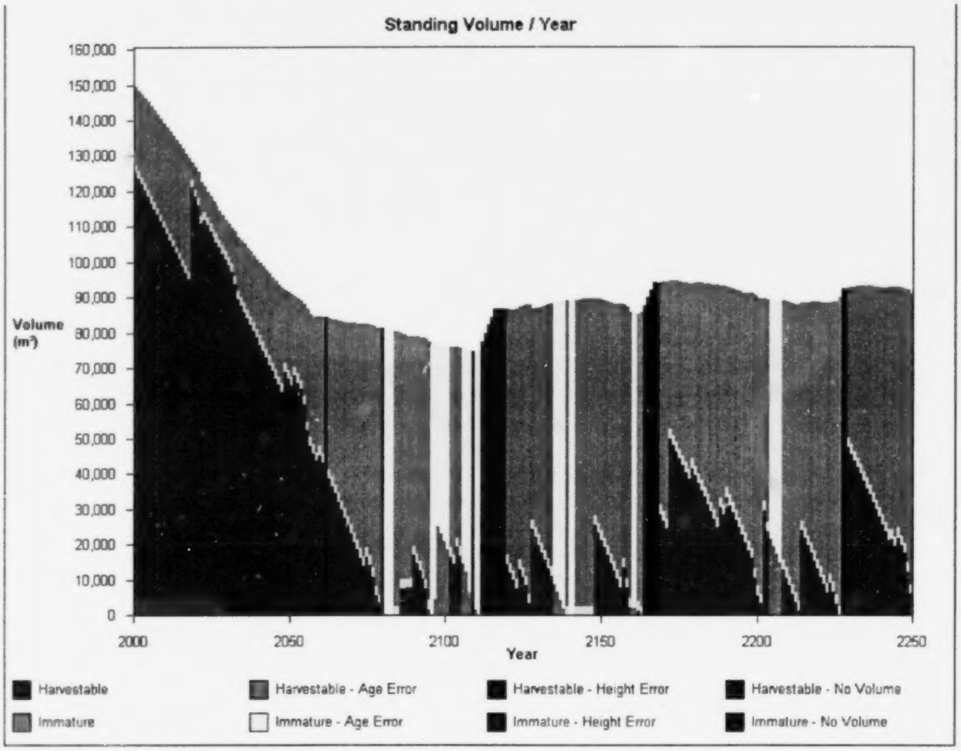
If you calculate the Harvest Rate with the Auto-Harvest Rate check box clicked on, then the constraints will apply and the harvest rate may be reduced to account for your constraints.

If you force your harvest to see where the constraints will not be met, messages will be displayed in the Harvest Schedule at the points where constraints and harvest parameters are not being met. Colored vertical bars will appear in the Standing Volume/Time graph at the times where height and/or age constraints cannot be met:



- Vertical red bars refer to a height constraint not being met in the period shown
- Vertical yellow bars refer to an age constraint not being met in the period shown
- Vertical blue bars indicate periods when there was no harvest, as there was no volume was available to harvest (all immature).

These can be seen more clearly on the graph produced under the <Graph> menu item. Refer to section *"13.0 Calculation* Results" for details on how to produce graphs.



12.8.1 No Constraints

If you have no constraints, leave the No Constraints check box clicked on. This will assume that all stands will be harvested with no additional constraints.

This is the default setting for WOODLOT.

12.8.2 Area Net Down Constraint

Use this feature if you do not know the height or age constraints, but have a general netdown value you would like to use. This is an area specific constraint (i.e., not temporal). The net operable area of all polygons in the woodlot will be reduced by this amount.

This may be used individually or in tandem with Height or Age Constraints.

12.8.3 Height Constraint

Use this feature if you know the forest cover constraints for the woodlot. This might be used for hydrology or greenup constraints.

This may be used individually or in tandem with Area Net Down or Age Constraints.

12.8.4 Age Constraint

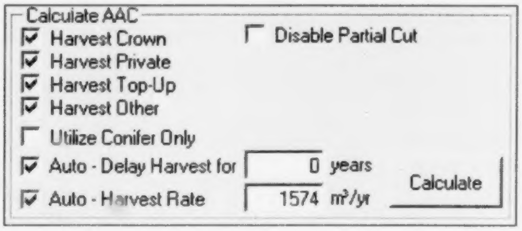
Use this feature if you know the forest cover constraints for the woodlot. This might be used for temporal (floating resource constraint over time) constraints, such as VQO, wildlife or biodiversity.

This may be used individually or in tandem with Area Net Down or Height Constraints.

12.9 Calculate

To calculate your woodlot harvest rate, use this feature. You have the option of:

- Selecting which ownership you wish to calculate a harvest rate for.
- Utilizing the conifer component only.
- Disabling all partial cuts for a comparison with clearcutting.
- Delaying the start of a harvest for a period of time.
- Running calculation simulations automatically, or forcing a cut manually.



Calculate AAC
☑ Harvest Crown
☑ Harvest Private
☑ Harvest Top-Up
☑ Harvest Other
☐ Utilize Conifer Only
☑ Auto - Delay Harvest for 0 years
☑ Auto - Harvest Rate 1574 m³/yr
☐ Disable Partial Cut

Once you have selected the arrangement for your woodlot, click on the Calculate button to run a harvest calculation.

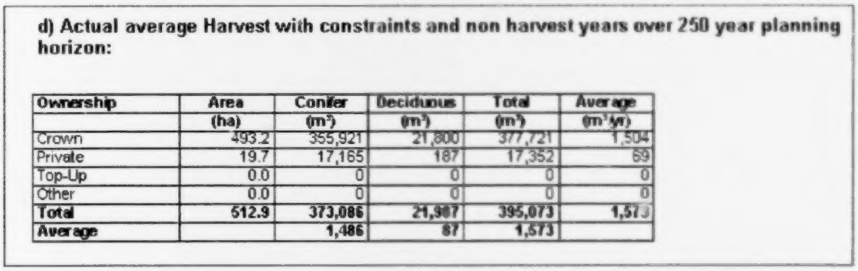
12.9.1 Harvest Crown, Private, Top-up, Other

Select the ownership polygons you wish to calculate a harvest rate for by checking the boxes. By checking off an ownership, you will exclude this area from the harvest calculation.

Note that a combined ownership harvest rate will be different than if you calculate each ownership separately and add together due to scheduling of timber over time. While this provides a rough approximation of the contribution by ownership, the actual average contribution is described in the Harvest Calculation section of the WOODLOT report.

Ownership	Separate Area Calculations (m^3/yr)	**Combined Area Calculation, averaged over 250 years based on total volume harvested (m^3/yr)***
Crown Only	1497	**1,504**
Private Only	52	**69**
Top-up Only	0	**0**
Other Only	0	**0**
Total	1569 added separately	**1573** **calculated as a whole**

* Use this number for the AAC determination. Refer to section 4 d) of the harvest planning report generated by WOODLOT as shown below. (Note that numbers may not add exactly due to rounding).



d) Actual average Harvest with constraints and non harvest years over 250 year planning horizon:

Ownership	**Area**	**Conifer**	**Deciduous**	**Total**	**Average**
	(ha)	**(m^3)**	**(m^3)**	**(m^3)**	**(m^3/yr)**
Crown	493.2	355,921	21,800	377,721	1,504
Private	19.7	17,165	187	17,352	69
Top-Up	0.0	0	0	0	0
Other	0.0	0	0	0	0
Total	**512.9**	**373,086**	**21,987**	**395,073**	**1,573**
Average		**1,486**	**87**	**1,573**	

12.9.2 Utilize Conifer Only

This is a new feature has been added to WOODLOT 3.0/3.1. Select this check box if you want to calculate the harvest rate for the conifer component only. In this way, you can determine the conifer and deciduous apportionment to the harvest rate, which is reported in the Report section 4 d) noted above.

12.9.3 Disable Partial Cut

Select this check box if you want to run a calculation assuming that all polygons will be clearcut. All polygons will be harvested at the harvest age selected in **Polygon Data**, and regenerated using VDYP yields.

12.9.4 Auto - Delay Harvest for

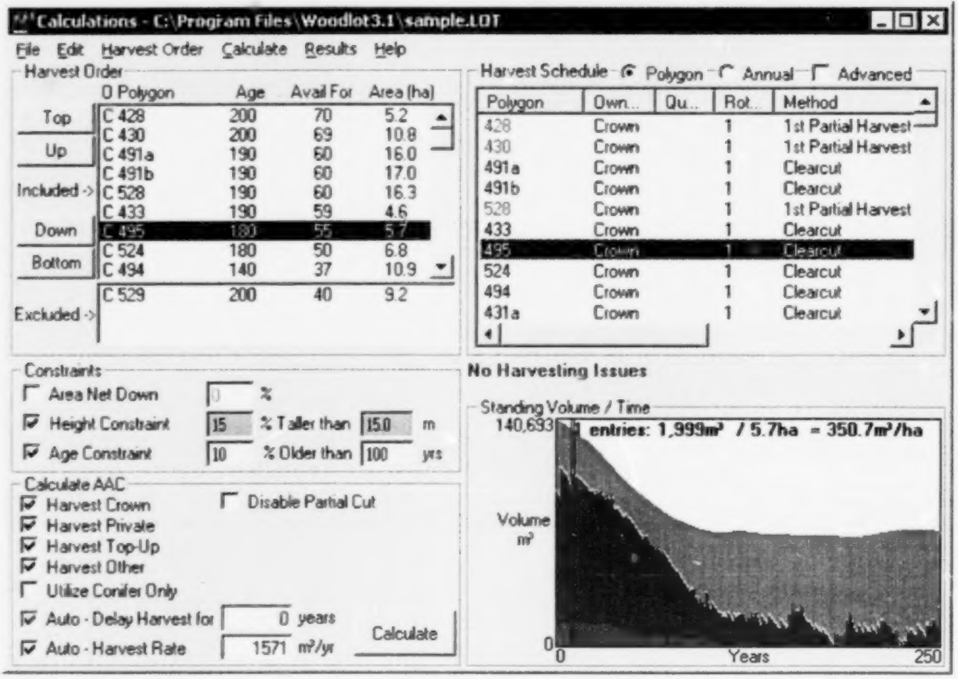
Leave this box checked if you wish to use the automatic delay period. In the checked position, with 0 years, WOODLOT will use no delay. WOODLOT will use a default of no delay unless you manually change this.

To delay a harvest calculation, clear the checkbox and enter the number of years you wish to delay the start of a calculation for. This may be useful if your woodlot is predominantly under the normal harvest ages selected in **Polygon Data**, or if you are a new woodlot licence holder who may not be harvesting in the near future.

12.9.5 Auto-Harvest Rate

Once you have sorted your polygons and established your constraints, harvest rates may be calculated automatically, or tested manually. Leave the Auto-Harvest Rate checkbox selected to calculate a harvest rate automatically when you click the Calculate button. Un-check this box if you wish to perform a test with your own manual harvest rate.

Refer to section *"12.5.2 Harvest Rate"* for more on calculating harvest rates.



Harvest Order

	0 Polygon	Age	Avail For	Area (ha)
Included ->	C 428	200	70	5.2
	C 430	200	69	10.8
	C 491a	190	60	16.0
	C 491b	190	60	17.0
	C 528	190	60	16.3
	C 433	190	59	4.6
	C 495	180	55	5.7
	C 524	180	50	6.8
	C 494	140	37	10.9
Excluded ->	C 529	200	40	9.2

Harvest Schedule ● Polygon ○ Annual ☐ Advanced

Polygon	Own...	Qu...	Rot...	Method
428	Crown		1	1st Partial Harvest
430	Crown		1	1st Partial Harvest
491a	Crown		1	Clearcut
491b	Crown		1	Clearcut
528	Crown		1	1st Partial Harvest
433	Crown		1	Clearcut
495	Crown		1	Clearcut
524	Crown		1	Clearcut
494	Crown		1	Clearcut
431a	Crown		1	Clearcut

No Harvesting Issues

Constraints
☐ Area Net Down 0 %
☑ Height Constraint 15 % Taller than 15.0 m
☑ Age Constraint 10 % Older than 100 yrs

Calculate AAC
☑ Harvest Crown
☑ Harvest Private
☑ Harvest Top-Up
☑ Harvest Other
☐ Utilize Conifer Only
☐ Disable Partial Cut
☑ Auto - Delay Harvest for 0 years
☑ Auto - Harvest Rate 1571 m³/yr

Standing Volume / Time
entries: 1,999m³ / 5.7ha = 350.7m³/ha

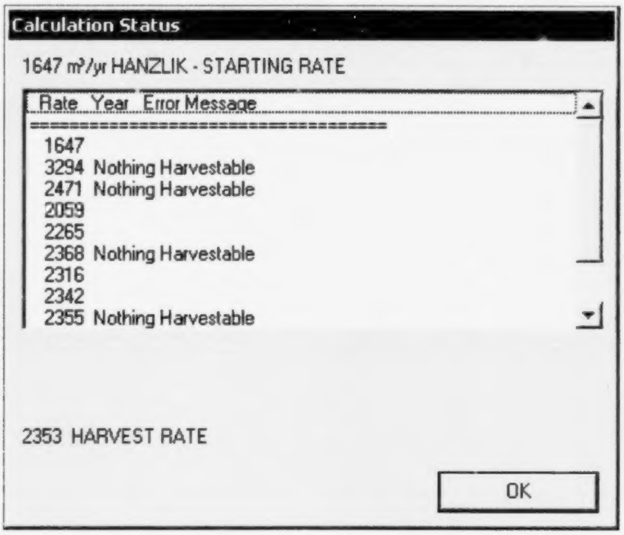
12.9.6 Calculate Button

The Calculate button and corresponding harvest rate will be displayed as red until you click the Calculate button to run the simulation. The calculation will be based on the order of polygons and constraints you selected, and the check boxes listed to the left in terms of assumptions.

The button and rate box will return to normal colour once you run a calculation.

12.9.7 Simulation

Once the Calculation button has been clicked, the harvest simulation starts. A series of screens will appear showing the calculation iterations used.



1647 m^3/yr HANZLIK - STARTING RATE

```
Rate  Year  Error Message
==================================
 1647
 3294  Nothing Harvestable
 2471  Nothing Harvestable
 2059
 2265
 2368  Nothing Harvestable
 2316
 2342
 2355  Nothing Harvestable
```

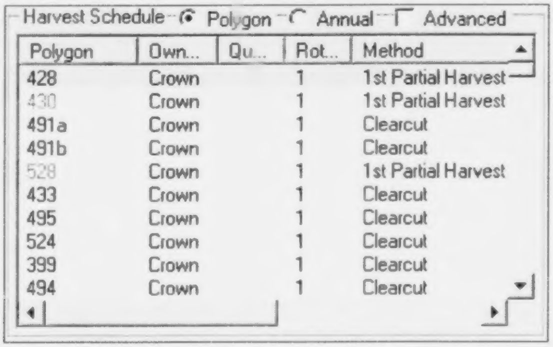
2353 HARVEST RATE

Information will be filled into the following screens after you run a calculation:

- Harvest Schedule
- Standing Volume/Time graph.

12.10 Harvest Schedule

Once you run a calculation, the Harvest Schedule will be filled in.



Harvest Schedule ● Polygon ○ Annual ☐ Advanced

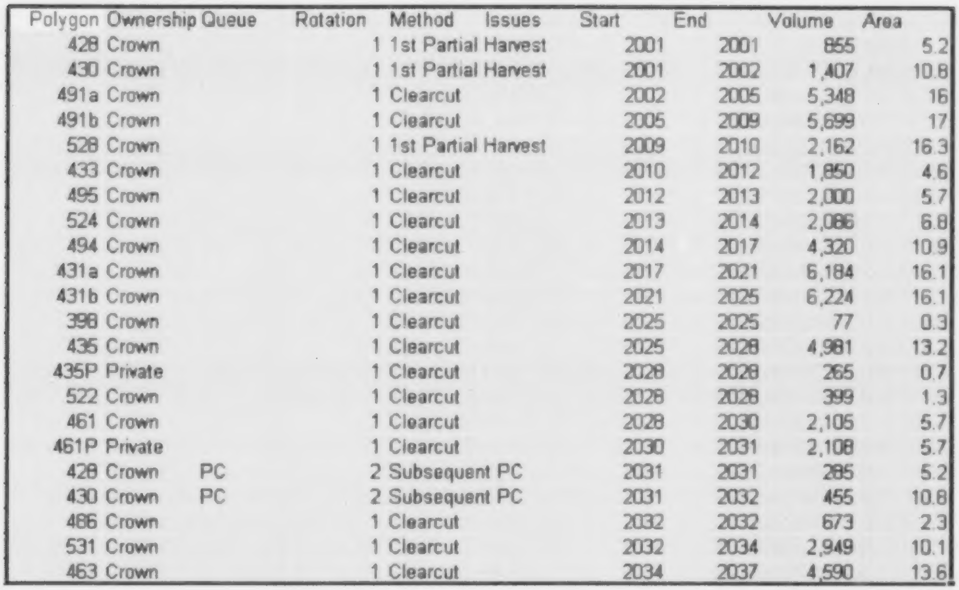
Polygon	Own...	Qu...	Rot...	Method
428	Crown		1	1st Partial Harvest
430	Crown		1	1st Partial Harvest
491a	Crown		1	Clearcut
491b	Crown		1	Clearcut
528	Crown		1	1st Partial Harvest
433	Crown		1	Clearcut
495	Crown		1	Clearcut
524	Crown		1	Clearcut
399	Crown		1	Clearcut
494	Crown		1	Clearcut

The Harvest schedule can be displayed in four modes, and can be resized by clicking and sliding the border. The information displayed is described below:

Polygon	Polygon Advanced	Annual	Annual Advanced
Polygon	Polygon	Year	Year
Ownership	Ownership	Block List	Block List
Queue	Queue	Area	Area
Rotation	Rotation	Area CCE	Area CCE
Method	Method	Volume	Volume
Issues	Issues	Conifer	Conifer
Start	Start	Deciduous	Deciduous
End	End	Number Polygons harvested	Area CC
Volume	Volume	Age Constraint = the % of area is older than the age constraint	Vol CC
Area	Conifer	Height Constraint = the % of height is taller than the height constraint	Area PC
	Deciduous		Vol PC
	Area		Area CT
	Area CCE		Vol CT
	Age		Area Roads
	dbh		Vol Roads
	vol/ha		Number Polygons
			Age Constraint = the % of area is older than the age constraint
			Height Constraint = the % of height is taller than the height constraint

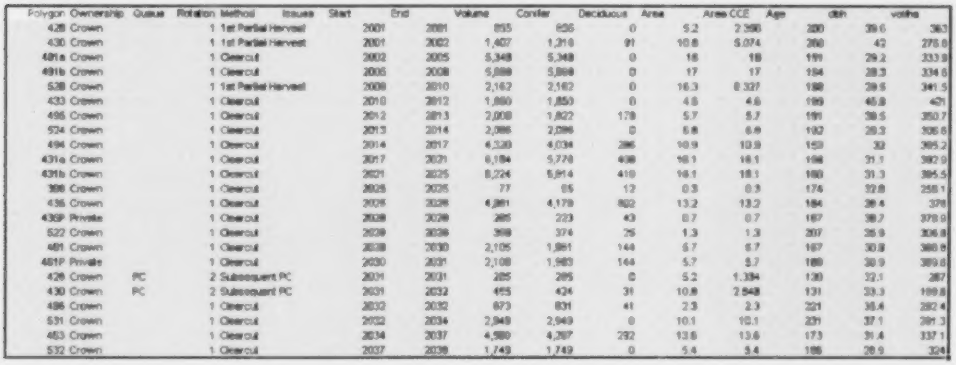
These schedules appear as follows:

1. Polygon (not advanced)



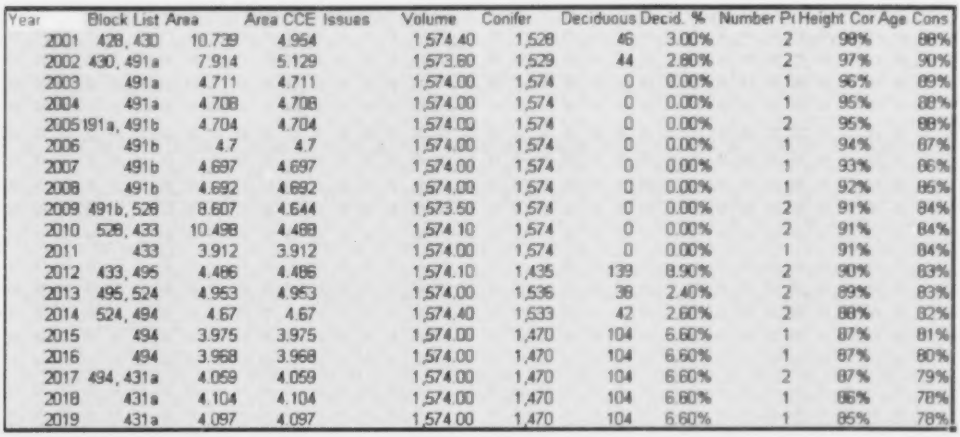
Polygon	Ownership	Queue	Rotation	Method	Issues	Start	End	Volume	Area
428	Crown		1	1st Partial Harvest		2001	2001	855	5.2
430	Crown		1	1st Partial Harvest		2001	2002	1,407	10.8
491a	Crown		1	Clearcut		2002	2005	5,348	16
491b	Crown		1	Clearcut		2005	2009	5,699	17
528	Crown		1	1st Partial Harvest		2009	2010	2,162	16.3
433	Crown		1	Clearcut		2010	2012	1,850	4.6
495	Crown		1	Clearcut		2012	2013	2,000	5.7
524	Crown		1	Clearcut		2013	2014	2,086	6.8
494	Crown		1	Clearcut		2014	2017	4,320	10.9
431a	Crown		1	Clearcut		2017	2021	6,184	16.1
431b	Crown		1	Clearcut		2021	2025	6,224	16.1
398	Crown		1	Clearcut		2025	2025	77	0.3
435	Crown		1	Clearcut		2025	2028	4,981	13.2
435P	Private		1	Clearcut		2028	2028	265	0.7
522	Crown		1	Clearcut		2028	2028	399	1.3
461	Crown		1	Clearcut		2028	2030	2,105	5.7
461P	Private		1	Clearcut		2030	2031	2,108	5.7
428	Crown	PC	2	Subsequent PC		2031	2031	285	5.2
430	Crown	PC	2	Subsequent PC		2031	2032	455	10.8
486	Crown		1	Clearcut		2032	2032	673	2.3
531	Crown		1	Clearcut		2032	2034	2,949	10.1
463	Crown		1	Clearcut		2034	2037	4,590	13.6

2. Polygon Advanced



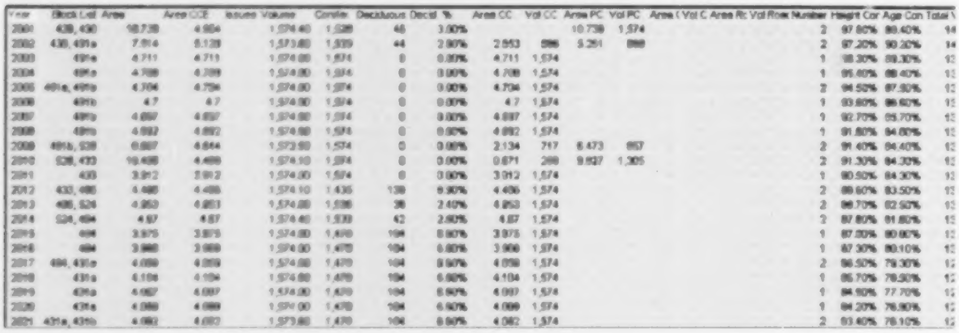
Polygon	Ownership	Queue	Rotation	Method	Issues	Start	End	Volume	Conifer	Deciduous	Area	Area CCE	Age	dbh	vol/ha
428	Crown		1	1st Partial Harvest		2001	2001	855	855	0	5.2	2.386	200	39.6	363
430	Crown		1	1st Partial Harvest		2001	2002	1,407	1,316	91	10.8	5.074	200	42	275.8
491a	Crown		1	Clearcut		2002	2005	5,348	5,348	0	16	16	191	29.2	333.9
491b	Crown		1	Clearcut		2005	2009	5,699	5,699	0	17	17	194	28.3	334.6
528	Crown		1	1st Partial Harvest		2009	2010	2,162	2,162	0	16.3	8.327	188	29.5	341.5
433	Crown		1	Clearcut		2010	2012	1,850	1,850	0	4.6	4.6	189	45.8	421
495	Crown		1	Clearcut		2012	2013	2,000	1,822	178	5.7	5.7	191	38.5	350.7
524	Crown		1	Clearcut		2013	2014	2,086	2,086	0	6.8	6.8	192	28.3	306.8
494	Crown		1	Clearcut		2014	2017	4,320	4,034	286	10.9	10.9	159	32	395.2
431a	Crown		1	Clearcut		2017	2021	6,184	5,776	408	16.1	16.1	198	31.1	382.9
431b	Crown		1	Clearcut		2021	2025	6,224	5,814	410	16.1	16.1	180	31.3	385.5
398	Crown		1	Clearcut		2025	2025	77	65	12	0.3	0.3	174	32.8	256.1
435	Crown		1	Clearcut		2025	2028	4,981	4,179	802	13.2	13.2	184	39.4	378
435P	Private		1	Clearcut		2028	2028	265	223	43	0.7	0.7	167	38.7	378.9
522	Crown		1	Clearcut		2028	2028	399	374	25	1.3	1.3	207	35.9	306.8
461	Crown		1	Clearcut		2028	2030	2,105	1,961	144	5.7	5.7	167	30.8	369.6
461P	Private		1	Clearcut		2030	2031	2,108	1,963	144	5.7	5.7	188	30.9	369.8
428	Crown	PC	2	Subsequent PC		2031	2031	285	285	0	5.2	1.334	130	32.1	287
430	Crown	PC	2	Subsequent PC		2031	2032	455	424	31	10.8	2.548	131	33.3	169.8
486	Crown		1	Clearcut		2032	2032	673	631	41	2.3	2.3	221	38.4	292.4
531	Crown		1	Clearcut		2032	2034	2,949	2,949	0	10.1	10.1	231	37.1	291.3
463	Crown		1	Clearcut		2034	2037	4,590	4,297	292	13.6	13.6	173	31.4	337.1
532	Crown		1	Clearcut		2037	2038	1,749	1,749	0	5.4	5.4	186	28.9	324

3. Annual (not advanced)



Year	Block List	Area	Area CCE	Issues	Volume	Conifer	Deciduous	Decid. %	Number Pı	Height Cor	Age Cons
2001	428, 430	10.739	4.954		1,574.40	1,528	46	3.00%	2	98%	88%
2002	430, 491a	7.914	5.129		1,573.60	1,529	44	2.80%	2	97%	90%
2003	491a	4.711	4.711		1,574.00	1,574	0	0.00%	1	96%	89%
2004	491a	4.708	4.708		1,574.00	1,574	0	0.00%	1	95%	88%
2005	191a, 491b	4.704	4.704		1,574.00	1,574	0	0.00%	2	95%	88%
2006	491b	4.7	4.7		1,574.00	1,574	0	0.00%	1	94%	87%
2007	491b	4.697	4.697		1,574.00	1,574	0	0.00%	1	93%	86%
2008	491b	4.692	4.692		1,574.00	1,574	0	0.00%	1	92%	85%
2009	491b, 528	8.607	4.644		1,573.50	1,574	0	0.00%	2	91%	84%
2010	528, 433	10.498	4.488		1,574.10	1,574	0	0.00%	2	91%	84%
2011	433	3.912	3.912		1,574.00	1,574	0	0.00%	1	91%	84%
2012	433, 495	4.486	4.486		1,574.10	1,435	139	8.90%	2	90%	83%
2013	495, 524	4.953	4.953		1,574.00	1,536	38	2.40%	2	89%	83%
2014	524, 494	4.67	4.67		1,574.40	1,533	42	2.60%	2	88%	82%
2015	494	3.975	3.975		1,574.00	1,470	104	6.60%	1	87%	81%
2016	494	3.968	3.968		1,574.00	1,470	104	6.60%	1	87%	80%
2017	494, 431a	4.059	4.059		1,574.00	1,470	104	6.60%	2	87%	79%
2018	431a	4.104	4.104		1,574.00	1,470	104	6.60%	1	86%	78%
2019	431a	4.097	4.097		1,574.00	1,470	104	6.60%	1	85%	78%

4. Annual Advanced



These schedules can be copied to a spreadsheet or word processor using the Edit Copy Harvest Schedule Table menu item (refer to section *"12.3 Edit"*).

Some of the key variables displayed include:

Column Variable Name	Description
Polygon	Mapsheet and Polygon number
Ownership	The ownership from Polygon data: C= Crown, P= Private, T= Top up, O= Other
Queue	Queue: if harvested outside of the initial sort order Entry: 1= first entry, 2= second entry, 3= third entry…
Rotation	Rotation that the polygon is cut in
Method	Silviculture system: clearcut or partial cut
Issues	Displays when constraints not met and reason why the polygon is not cut
Start	Year that harvesting starts
End	Year that harvesting ends
Volume	Volume harvested (m^3)
Area	Area harvested (ha)
Block List	Polygon number
Area CCE	Area of clearcut equivalent used in WOODLOT
Height Cons.	% of woodlot meeting height constraint (e.g. 80% means that 80% of the area is greater than the height you have specified in constraints)
Age Cons.	% of woodlot meeting age constraint (e.g. 80% means that 80% of the area is greater than the age you have specified in constraints)

12.10.1 Harvest Parameters not met - Issues

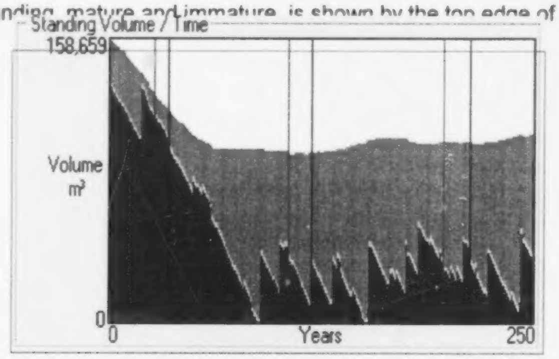
When harvest parameters are not met, they will be described in the harvest schedule under "Issues".

12.11 Standing Volume/Time Graph

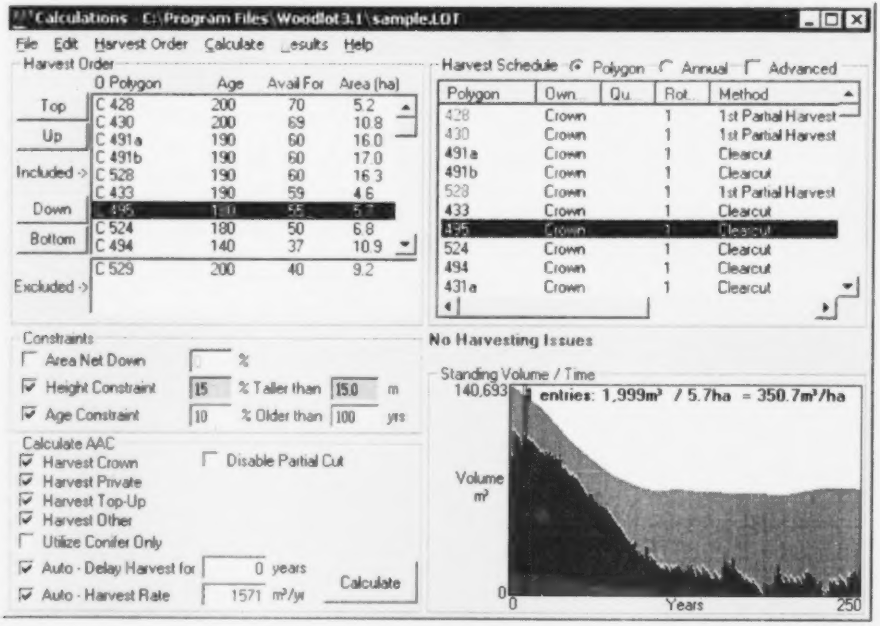
After a calculation is run, the Standing Volume/Time graph will be displayed. Information includes:

- Vertical Axis: total volume (m³)
- Horizontal Axis: time period, 0 to 250 years (planning horizon)
- Dark green: timber that has reached a harvestable age
- Light green. timber that has not yet reached a harvestable age (stacked on top of harvestable timber)
- Vertical colour bars. Display the periods when a particular polygon is harvested (the example below indicates that the polygon is harvested three times over the 250 years)
- Other vertical bars indicating periods when harvest parameters are not met. Refer to section *"12.8 Constraints '*.

The total volume standing, mature and immature, is shown by the top edge of the light green.



You can select a polygon in the Harvest Order section, and this will highlight on the Harvest Schedule as well as the graph.


Calculations - C:\Program Files\Woodlot3.1\sample.LOT
File Edit Harvest Order Calculate _esults Help
Top
Up
Down
Bottom
Calculate

Harvest Order

	0 Polygon	Age	Avail For	Area (ha)
Included ->	C 428	200	70	5.2
	C 430	200	69	10.8
	C 491a	190	60	16.0
	C 491b	190	60	17.0
	C 528	190	60	16.3
	C 433	190	59	4.6
	C 495	180	55	5.7
	C 524	180	50	6.8
	C 494	140	37	10.9
Excluded ->	C 529	200	40	9.2

Harvest Schedule ● Polygon ○ Annual ☐ Advanced

Polygon	Own...	Qu...	Rot...	Method
428	Crown		1	1st Partial Harvest
430	Crown		1	1st Partial Harvest
491a	Crown		1	Clearcut
491b	Crown		1	Clearcut
528	Crown		1	1st Partial Harvest
433	Crown		1	Clearcut
495	Crown		1	Clearcut
524	Crown		1	Clearcut
494	Crown		1	Clearcut
431a	Crown		1	Clearcut

No Harvesting Issues

Constraints

☐ Area Net Down [ ] %
☑ Height Constraint [15] % Taller than [15.0] m
☑ Age Constraint [10] % Older than [100] yrs

Calculate AAC

☑ Harvest Crown
☑ Harvest Private
☑ Harvest Top-Up
☑ Harvest Other
☐ Utilize Conifer Only
☐ Disable Partial Cut
☑ Auto - Delay Harvest for [0] years
☑ Auto - Harvest Rate [1571] m³/yr

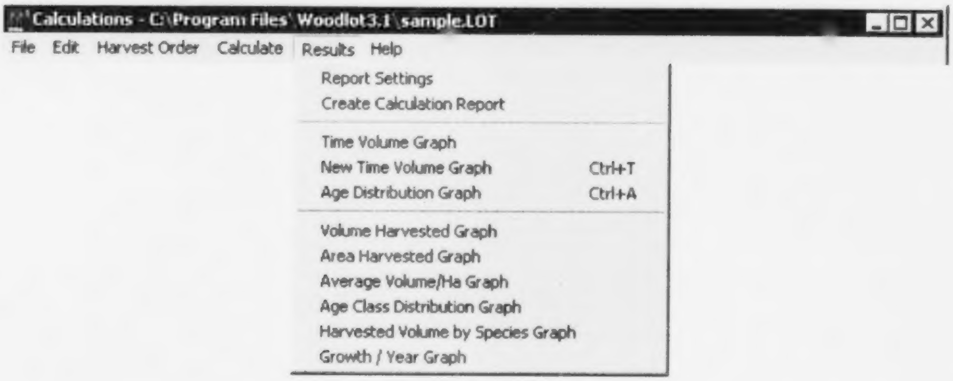
Standing Volume / Time

entries: 1,999m³ / 5.7ha = 350.7m³/ha

13.0 Calculation Results

There are two ways to produce reports in WOODLOT, a main summary report for general users, and a detailed calculation report. The main summary report is produced from the WOODLOT screen; refer to section *"14.0 Report Writer"*. For advanced users, version 3.1 now allows you to create a detailed report and graphs of results from the current calculation. Under the Results menu item, the following features are available from three groupings:

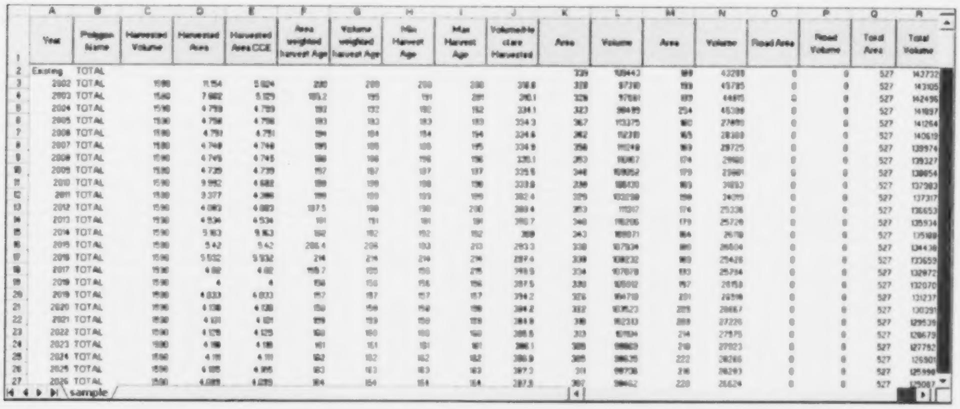
- Calculation Report and its settings.
- Graphs commonly used for viewing Woodlot results (Time Volume and New Time Volume Graphs report the same information but in different formats).
- Advanced analysis graphs using the new EnGraph Lite graphing features.


Calculations - C:\Program Files\Woodlot3.1\sample.LOT
File
Edit
Harvest Order
Calculate
Results
Help
Report Settings
Create Calculation Report
Time Volume Graph
New Time Volume Graph Ctrl+T
Age Distribution Graph Ctrl+A
Volume Harvested Graph
Area Harvested Graph
Average Volume/Ha Graph
Age Class Distribution Graph
Harvested Volume by Species Graph
Growth / Year Graph

13.1 Calculations Report

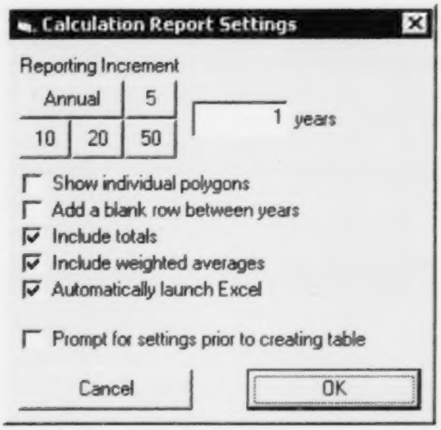
A summary report can be created to help advanced users analyze the standing volume and timber harvested over the planning horizon. To produce a calculation report, from the **Results** menu, first set-up the reporting parameters using the **Report Settings** described in Section 13.2, then select **Create Calculation Report**. The following is a sample Calculation Report.

Caution: due to the detailed nature of this report, a Woodlot with 50 polygons reported on an annual basis can be over 12500 rows long.



13.2 Calculation Report Settings

In order to change the default format of a Calculation Report, select **Report Settings** from the **Results** menu.



1 years

☐ Show individual polygons
☐ Add a blank row between years
☑ Include totals
☑ Include weighted averages
☑ Automatically launch Excel

☐ Prompt for settings prior to creating table

The following reporting options can be turned on or off before generating a report:

- Report Increment – sets the length of each reporting period.
- Show individual polygons – adds a row for each polygon for each period.
- Add a blank row between years – puts a blank row between periods.
- Include totals – Includes a summary row at the end of each period.
- Include weighted averages – adds columns for Area and Volume Weighted Harvest Ages
- Automatically launch Excel – launches spreadsheet and imports the generated report.
- Prompt for settings prior to creating table – displays this screen every time a report is generated.

13.3 Time Volume Graph – Original Version

By selecting **Time Volume Graph** from the **Results** menu, you will produce the same graph as is displayed on the Calculation screen, and as described in Section *"12.11 Standing Volume/Time Graph "*. This is the original graph used in version 3.0 of WOODLOT, though the name has been changed slightly.

13.4 New Time Volume Graph – EnGraph Version

Ctrl T Shortcut Key

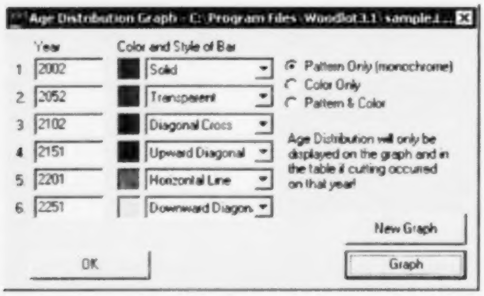
By selecting **New Time Volume Graph** from the **Results** menu, you will generate a graph similar to the one displayed on the Calculation screen. It contains the same information as the original Volume/Time graph, though is now displayed in EnGraph Lite format, where it can be copied to the clipboard, saved or printed more easily. This graph shows the standing merchantable volume available to WOODLOT at any point in time.

13.5 Age Distribution Graph

Ctrl A Shortcut Key

This feature will generate a colour age class distribution graph, which is reported in 6 time periods. By default, the age distribution table chooses 50-year increments, though this can be revised.

Pressing on the **New Graph** button will generate an age distribution graph. Note: the New Graph feature ignores the color and pattern settings and will be displayed in EnGraph. The **Graph** button displays the age distribution graph in the old graphing program using the selected color and pattern settings. The old graph program doesn't have a direct printing feature provided in EnGraph graphs, but may be copied to the clipboard and then into a Word document for printing.



Age Distribution Graph - C:\Program Files\Woodlot3.1\sample1...

	Year	Color and Style of Bar
1	2002	■ Solid
2	2052	■ Transparent
3	2102	■ Diagonal Cross
4	2151	■ Upward Diagonal
5	2201	■ Horizontal Line
6	2251	□ Downward Diagon.

● Pattern Only (monochrome)
○ Color Only
○ Pattern & Color

Age Distribution will only be displayed on the graph and in the table if cutting occurred on that year!

13.6 Other Graphs

WOODLOT version 3.1 offers new graphing capability; previous versions of Woodlot generated graphs differently. The original versions of the following graphs were left in WOODLOT, but have been superseded as follows:

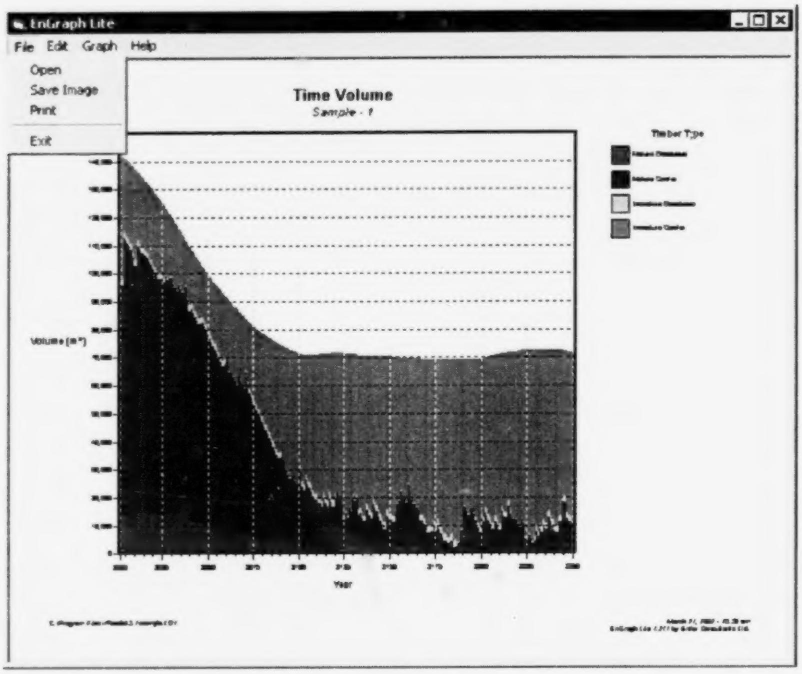
1. Volume/Time Graph – has been replaced with the New Time Volume Graph
2. Age Distribution Graph – has been replaced with Age Class Distribution Graph

The following graphs have been added to WOODLOT version 3.1, but are intended for advanced users that are testing output data from WOODLOT only. These are all displayed in EnGraph Lite:

1. Volume Harvested Graph
2. Area Harvested Graph
3. Average Volume/ha Graph
4. Age Class Distribution Graph
5. Harvested Volume by Species Graph
6. Growth per Year Graph

13.7 EnGraph Lite

EnGraph Lite is a stand-alone program developed by Enfor Consultants Ltd. for viewing, saving and printing graphs. Once you have created one of the new graphs in WOODLOT, the following reporting features can be accessed from the menu as follows:


EnGraph Lite
File Edit Graph Help
Open
Save Image
Print
Exit
Time Volume
Sample - 1
Timber Type
Volume (m³)
Year

13.7.1 Save Image

Selecting **Save Image** from the File menu saves the graph as a "windows bitmap" for importing into graphics programs.

13.7.2 Print

Selecting **Print** from the File menu will print the graph directly to your printer. This produces a much higher resolution image than by printing the "bitmap" or the copied image.

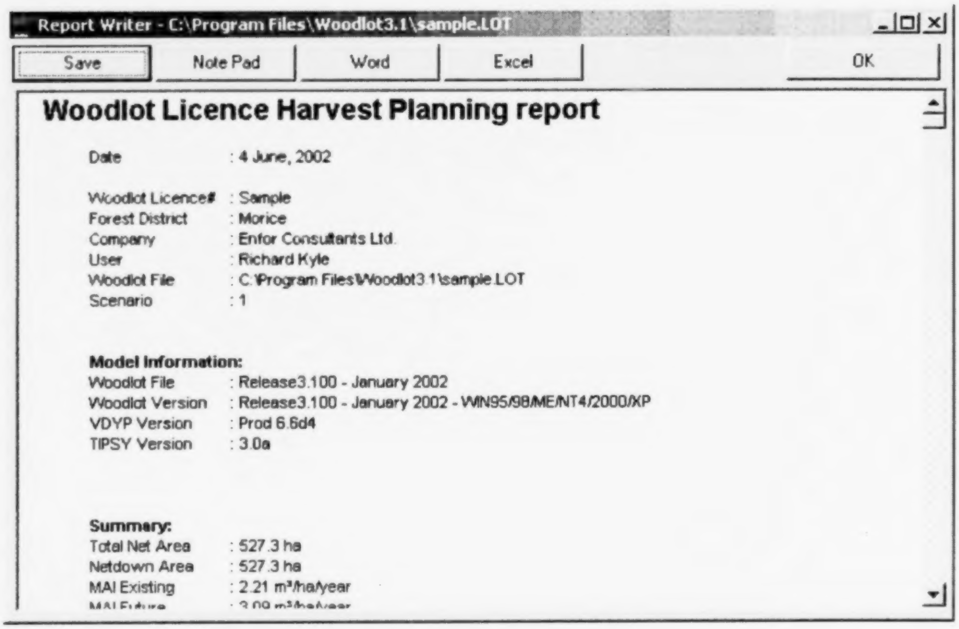
13.7.3 Copy Graph

Selecting **Copy Graph** from the Edit menu, copies the graph at a higher resolution to the clipboard so it can be pasted into most applications.

14.0 Report Writer

This screen is used to generate reports in WOODLOT. To generate a report:

1. Run a calculation. A calculation must be run before a report can be generated.
2. Click on the <Report> button on the **Main** screen
3. The following report will appear on the **Report Writer** screen



Woodlot Licence Harvest Planning report

Date : 4 June, 2002

Woodlot Licence# : Sample
Forest District : Morice
Company : Enfor Consultants Ltd.
User : Richard Kyle
Woodlot File : C:\Program Files\Woodlot3.1\sample.LOT
Scenario : 1

Model Information:
Woodlot File : Release3.100 - January 2002
Woodlot Version : Release3.100 - January 2002 - WIN95/98/ME/NT4/2000/XP
VDYP Version : Prod 6.6d4
TIPSY Version : 3.0a

Summary:
Total Net Area : 527.3 ha
Netdown Area : 527.3 ha
MAI Existing : 2.21 m³/ha/year
MAI Future : 3.09 m³/ha/year

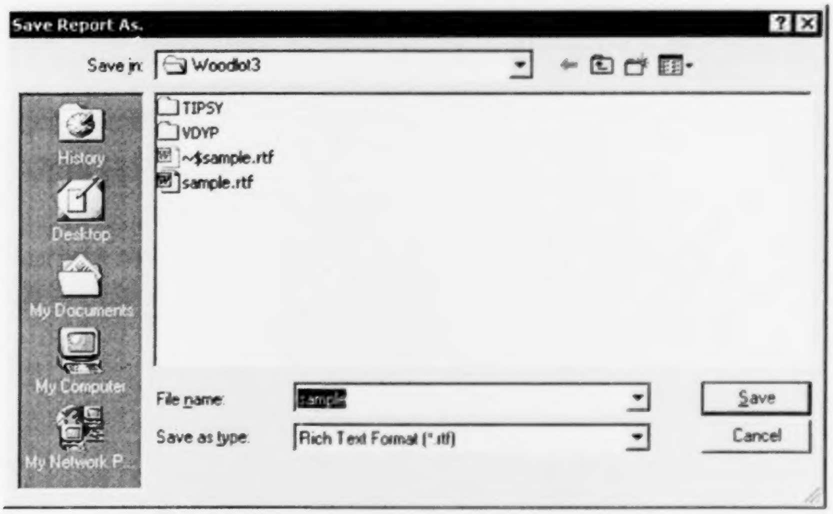
4. You can then view or save the report. Changes you make will not be saved in WOODLOT; you must save it in WORD, Note Pad or Excel.
5. You may scroll through the report on screen, or select one of the following to generate a report:

   - MS Notepad, which comes with Windows
   - MS Word for Windows
   - MS Excel

WOODLOT will automatically find these other applications on your computer. Their computer path on your computer is displayed in the **Settings** screen.

All data used in WOODLOT and generated in the harvest calculation is summarized in the report for your use and editing. Refer to the sample report in Appendix 10.

If you choose to view the report in Notepad, Word, or Excel, the following save screen will first appear after you click the respective button. Save the file as directed.


Save Report As.
TIPSY
VDYP
~$sample.rtf
sample.rtf
History
Desktop
My Documents
My Computer
My Network P...
Save
Cancel

Save in: Woodlot3

File name: sample

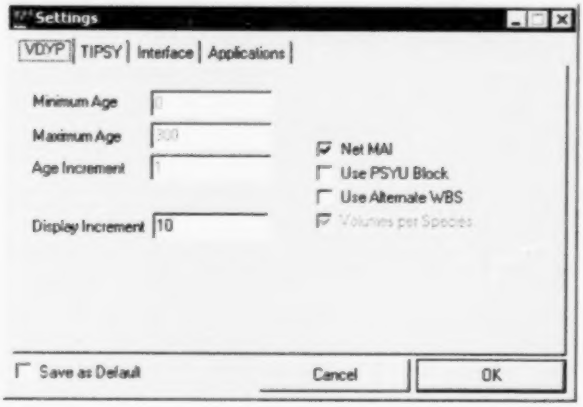
Save as type: Rich Text Format (*.rtf)

WOODLOT generates reports as rich text format, which can be saved as plain text. These reports can be easily imported into any word processor and then completed by the users. Age distribution and Volume/Time graphs can be added with your conclusions using the copy function (see section *"13.7.3 Copy Graph"*) and the paste function in that program.

15.0 Settings Screen

The **Settings** screen is used to modify settings and to describe file/program locations. This is a utility screen for running WOODLOT, which is activated by clicking the **Settings** button on the **Main** screen.

In general, you should not need to adjust any settings unless you are an advanced user. You should consult the woodlot "Help-line" if you wish to make changes in the **Settings** screens.



Minimum Age 0
Maximum Age 300
Age Increment 1
Display Increment 10

☑ Net MAI
☐ Use PSYU Block
☐ Use Alternate WBS
☑ Volumes per Species

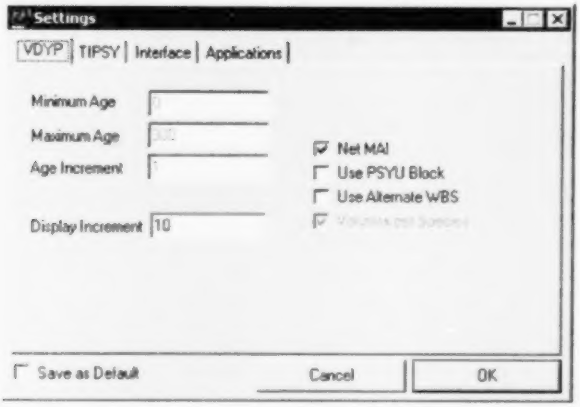
☐ Save as Default

Changes you make in the **Settings** screens will apply to the woodlot file you are currently working on. If you close out your .lot file, the changes you make will be lost unless they are saved as defaults.

To save the changes you make in your **Settings** screen as default settings, check the Save as Default checkbox.

15.1 VDYP Settings

You may adjust some settings for VDYP, though changes are not normally required.



Minimum Age 0
Maximum Age 300
Age Increment 1
Display Increment 10

☑ Net MAI
☐ Use PSYU Block
☐ Use Alternate WBS
☑ Volumes per Species

☐ Save as Default

15.1.1 Ages

Ages are used for reporting data from the VDYP yield curves. You may adjust the minimum age (start of the yield curve), maximum age (end of the yield curve) and age increments (how it will report out yield information). You may also adjust the display increment to any number of groupings, such as 1 year, 5 year or 10 year groupings to reduce the size of your yield table appearance.

15.1.2 Net MAI

If this is checked (the default setting), MAI will be net of Decay Waste & Breakage (DWB). If unchecked, it will result in generating a gross MAI, not net of DWB, and will overstate your merchantable timber supply.

15.1.3 PSYU Block

Will activate another data box in VDYP. Do not use this unless you have PSYU Blocks.

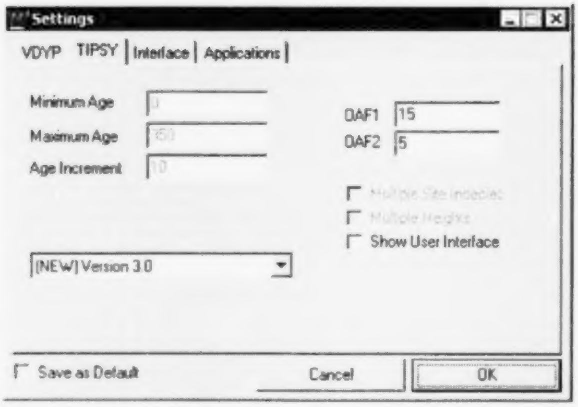
15.1.4 Waste and Breakage - Alternate WBS

WOODLOT uses the waste and breakage settings (WBS) from VDYP to reduce volumes from gross to net merchantable volumes. There are two settings provided for your use, the default WBS factors and Alternate WBS factors. Alternate WBS factors provide an expanded range of utilization levels. All levels are described below (*note: VDYP* ***does not have a 15 cm utilization level***). If you wish to use Alternate WBS factors, select this check box in the VDYP settings.

Forest Inventory Zone (FIZ)	**Inventory Utilization Level Available from VDYP (diameter at breast height (cm.))**			
	12.5	***15.0***	**17.5**	**22.5**
A to C (i.e. Coast)	**Available by activating Alternate WBS in Settings**	*Not Available*	Available by default	Available by default
D to L (i.e. Interior)	Available by default	*Not Available*	Available by default	**Available by activating Alternate WBS in Settings**

15.2 TIPSY Settings

You may adjust some settings for TIPSY, though changes are not normally required.



Minimum Age 0
Maximum Age 350
Age Increment 10
OAF1 15
OAF2 5
☐ Multiple Site Indecies
☐ Multiple Heights
☐ Show User Interface
(NEW) Version 3.0
☐ Save as Default

15.2.1 OAF1 & OAF2

The Operational Adjustment Factors (OAFs) have been set in WOODLOT to the standard settings of OAF1 = 15% and OAF2 = 5%. These should not be adjusted unless you have supporting information. They can be adjusted universally as a default setting using this part of the TIPSY Settings screen. Refer also to section *"9.11.5 OAF1 / OAF2"*.

15.2.2 Multiple SI, Ht, Interface

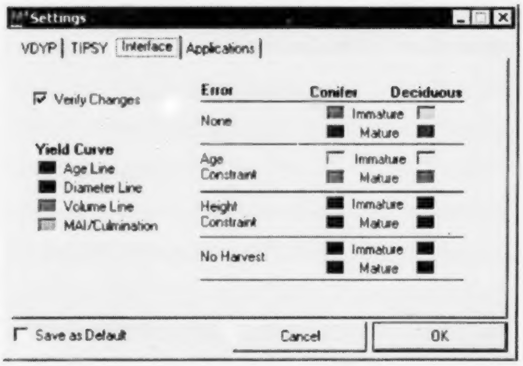
These features activate multiple species features in TIPSY. Do not use these unless you are familiar with the full use of TIPSY.

15.2.3 Version box

You may test the impact of using the old version of TIPSY on your calculations, which will require you to recalculate all yields in the **Polygon Data** screen. This may be done by selecting the old version (e.g. **Old v2.2.1**) from the pick list then recalculating your yield curves and rerunning the harvest rate Calculation.

15.3 Interface

You may change the colours viewed in WOODLOT for both the Yield Curves (listed on the left) and the Calculation screen graph (listed on the right). Click on the colour you would like to change and this will bring up a pallet to choose from. On the Calculation screen graph settings, note that under "Error", this refers to the Age, Height or No Harvest Constraint in the Calculation screen that is not being met; "None" refers to colours that will be displayed for the standing volume.



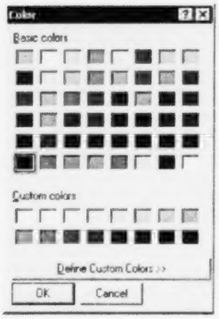
☑ Verify Changes

Yield Curve
- ■ Age Line
- ■ Diameter Line
- ■ Volume Line
- ■ MAI/Culmination

Error	Conifer		Deciduous
None	■	Immature	☐
	■	Mature	■
Age Constraint	☐	Immature	☐
	■	Mature	■
Height Constraint	■	Immature	■
	■	Mature	■
No Harvest	■	Immature	■
	■	Mature	■

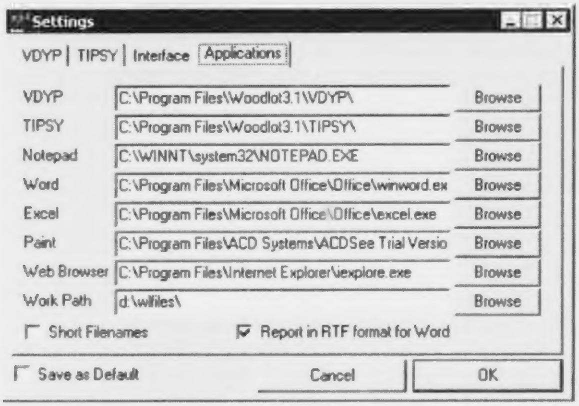
☐ Save as Default

The following colour pallet window will display; select your colours or create a custom colour.



15.4 Applications

You may view and identify the various paths for applications used by WOODLOT on your computer through the Applications screen. Use the Browse buttons to locate the executable files on your system. The following paths are an example only, yours will be different.



VDYP: C:\Program Files\Woodlot3.1\VDYP\
TIPSY: C:\Program Files\Woodlot3.1\TIPSY\
Notepad: C:\WINNT\system32\NOTEPAD.EXE
Word: C:\Program Files\Microsoft Office\Office\winword.ex
Excel: C:\Program Files\Microsoft Office\Office\excel.exe
Paint: C:\Program Files\ACD Systems\ACDSee Trial Versio
Web Browser: C:\Program Files\Internet Explorer\iexplore.exe
Work Path: d:\wlfiles\
☐ Short Filenames
☑ Report in RTF format for Word
☐ Save as Default

15.4.1 Work Path

The work path is the default location for storing your data. WOODLOT requires read and write access to this folder. If left blank, WOODLOT will use the folder where it is stored ("c:\program files\woodlot3.1\" by default).

15.4.2 Short Filenames

The Short Filenames checkbox feature tells WOODLOT to send short file names to programs like Word. This feature maybe required if you are running an old version of Word or Excel.

15.4.3 Report in RTF format for Word

Tells the report program to use **rich text format** enabling tables, font attributes and alignment features. If you disable this option the report will be exported as plain text.

Appendix 1 - PSYU Codes and Utilization Levels Used with VDYP

PSYU/BLOCK	DESCRIPTION	LEVEL*		
		12.5	17.5	22.5
103/0	RIVERS INLET	AWB	✓	✓
109/0	QUESNEL LAKE	✓	✓	AWB
110/0	SIMILKAMEEN	✓	✓	AWB
111/0	NICOLA	✓	✓	AWB
112/0	SPALLUMCHEEN	✓	✓	AWB
113/0	BARRIERE	✓	✓	AWB
114/0	NISKONLITH	✓	✓	AWB
115/0	SALMON ARM	✓	✓	AWB
116/0	CARP	✓	✓	AWB
117/0	CROOKED RIVER	✓	✓	AWB
118/0	WESTLAKE	✓	✓	AWB
119/0	PURDEN	✓	✓	AWB
120/0	WILLOW RIVER	✓	✓	AWB
121/0	NAVER	✓	✓	AWB
122/0	COTTONWOOD	✓	✓	AWB
123/0	WILLIAMS LAKE	✓	✓	AWB
124/0	KETTLE	✓	✓	AWB
125/0	ARROWHEAD	✓	✓	AWB
126/0	EDGEWOOD	✓	✓	AWB
127/0	KLAPPAN	✓	✓	AWB
128/0	NAKUSP	✓	✓	AWB
129/0	SLOCAN	✓	✓	AWB
130/0	CRESTON	✓	✓	AWB
131/0	UPPER KOOTENAY	✓	✓	AWB
132/0	MORICE	✓	✓	AWB
133/0	SMITHERS	✓	✓	AWB
134/0	BABINE	✓	✓	AWB
135/0	STUART LAKE	✓	✓	AWB
136/0	WINDERMERE	✓	✓	AWB
137/0	NARCOSLI	✓	✓	AWB
140/0	STUM	✓	✓	AWB
141/0	LAC LA HACHE	✓	✓	AWB
142/0	BIG BAR	✓	✓	AWB
143/0	YALAKOM	✓	✓	AWB
144/0	BOTANIE	✓	✓	AWB
145/0	LIARD	✓	✓	AWB
146/0	ADAMS	✓	✓	AWB
147/0	CHILKO	✓	✓	AWB
149/0	PARSNIP	✓	✓	AWB
150/0	EAGLE	✓	✓	AWB

PSYU/BLOCK	DESCRIPTION	LEVEL		
		12.5	17.5	22.5
151/0	BOWRON	✓	✓	AWB
152/0	BIG VALLEY	✓	✓	AWB
153/0	LONGWORTH	✓	✓	AWB
154/0	BURNS LAKE	✓	✓	AWB
155/0	OOTSA	✓	✓	AWB
156/0	SOO	AWB	✓	✓
158/0	NORTH THOMPSON	✓	✓	AWB
159/0	NEHALLISTON	✓	✓	AWB
160/0	LARDEAU	✓	✓	AWB
161/0	FERNIE	✓	✓	AWB
162/0	PEACE RIVER	✓	✓	AWB
165/0	DEAN	AWB	✓	✓
166/0	QUEEN CHARLOTTE	AWB	✓	✓
168/0	NECHAKO	✓	✓	AWB
169/0	SKEENA	✓	✓	AWB
170/0	GRANBY	✓	✓	AWB
171/0	SHUSWAP	✓	✓	AWB
172/0	STIKINE	✓	✓	AWB
173/0	HECATE	AWB	✓	✓
174/0	MONKMAN	✓	✓	AWB
175/0	KINBASKET	✓	✓	AWB
176/0	ROBSON	✓	✓	AWB
177/0	MOBERLY	✓	✓	AWB
178/0	BLUEBERRY	✓	✓	AWB
179/0	VANCOUVER	AWB	✓	✓
180/0	SALMO	✓	✓	AWB
181/0	ASHNOLA	✓	✓	AWB
182/0	BARTON HILL	✓	✓	AWB
183/0	RAFT	✓	✓	AWB
184/0	CANOE	✓	✓	AWB
185/0	FORT NELSON	✓	✓	AWB
186/0	CRANBROOK	✓	✓	AWB
187/0	OKANAGAN	✓	✓	AWB
188/0	TAKLA	✓	✓	AWB
189/0	FINLAY	✓	✓	✓
190/0	BELL-IRVING	✓	✓	AWB
191/0	KOTCHO	✓	✓	AWB
192/0	WAPITI	✓	✓	AWB
193/0	DEWDNEY	AWB	✓	✓
194/0	QUADRA	AWB	✓	✓
195/0	KINGCOME	AWB	✓	✓
196/0	NOOTKA	AWB	✓	✓
197/0	SIKANNI	✓	✓	AWB
198/0	FONTAS	✓	✓	AWB
199/0	BOUNDARY	✓	✓	AWB
235/0	E&N BELT/CROWN PORT.	AWB	✓	✓
243/0	FT. ST. JAMES SSA	✓	✓	AWB

PSYU/BLOCK	DESCRIPTION	LEVEL		
		12.5	17.5	22.5
248/0	HANEY CORRECTNL INST	AWB	✓	✓
251/0	PRINCE GEORGE SSA	✓	✓	AWB
261/0	KAMLOOPS	✓	✓	AWB
262/0	DEASE	✓	✓	AWB
263/0	TAKU	✓	✓	AWB
264/0	KECHIKA	✓	✓	AWB
265/0	DAWSON CRK. SSA	✓	✓	AWB
266/0	ALSEK	✓	✓	AWB
267/0	ALEZA L. FOREST RES	✓	✓	AWB
289/0	KLUSKUS	✓	✓	AWB
291/0	MELDRUM CRK MIL. RES	✓	✓	AWB
292/0	SUSTUT PSYU	✓	✓	AWB
301/0	TFL 1	✓	✓	AWB
303/0	TFL 3	✓	✓	AWB
305/0	TFL 5	✓	✓	AWB
306/0	TFL 6	AWB	✓	✓
308/0	TFL 8	✓	✓	AWB
310/0	TFL 10	AWB	✓	✓
313/0	TFL 13	✓	✓	AWB
314/0	TFL 14	✓	✓	AWB
315/0	TFL 15	✓	✓	AWB
318/0	TFL 18	✓	✓	AWB
319/0	TFL 19	AWB	✓	✓
323/0	TFL 23	✓	✓	AWB
325/0	TFL 30	✓	✓	AWB
332/0	TFL 35	✓	✓	AWB
339/0	TFL 33	✓	✓	AWB
341/0	TFL 41	AWB	✓	✓
342/0	TFL 26	AWB	✓	✓
343/1	TFL 25	AWB	✓	✓
343/2	TFL 25	AWB	✓	✓
343/3	TFL 25	AWB	✓	✓
343/4	TFL 25	AWB	✓	✓
343/5	TFL 25	AWB	✓	✓
344/1	TFL 39	AWB	✓	✓
344/2	TFL 39	AWB	✓	✓
344/3	TFL 39	AWB	✓	✓
344/4	TFL 39	AWB	✓	✓
344/5	TFL 39	AWB	✓	✓
344/6	TFL 39	AWB	✓	✓
344/7	TFL 39	AWB	✓	✓
345/0	TFL 38	AWB	✓	✓
347/0	TFL 37	AWB	✓	✓
348/0	TFL 24	AWB	✓	✓
456/1	TFL 45	AWB	✓	✓
456/2	TFL 45	AWB	✓	✓
457/0	TFL 46	AWB	✓	✓

PSYU/BLOCK	DESCRIPTION	LEVEL		
		12.5	17.5	22.5
458/0	TFL 42	✓	✓	AWB
469/1	TFL 43	AWB	✓	✓
469/2	TFL 43	AWB	✓	✓
470/1	TFL 47	AWB	✓	✓
470/2	TFL 47	AWB	✓	✓
470/3	TFL 47	AWB	✓	✓
471/0	TFL 44	AWB	✓	✓
472/1	TFL 49	✓	✓	AWB
472/2	TFL 49	✓	✓	AWB
474/0	TFL 48	✓	✓	AWB
476/0	TFL 53	✓	✓	AWB
477/0	TFL 52	✓	✓	AWB
478/0	TFL 54	AWB	✓	✓
479/0	TFL 55	✓	✓	AWB
481/0	TFL 56	✓	✓	AWB
511/0	CHAMPION LAKES PARK	✓	✓	AWB
512/0	CHASM PROV. PARK	✓	✓	AWB
513/0	CINNEMOUSUN NARROWS PK	✓	✓	AWB
516/0	DARKE LAKE PARK	✓	✓	AWB
518/0	ECHO LAKE PARK	✓	✓	AWB
523/0	EXCHAMSIKS RIVER PK	✓	✓	AWB
537/0	LAC LA HACHE PARK	✓	✓	AWB
563/0	YARD CREEK PARK	✓	✓	AWB
575/0	KING GEORGE VI PARK	✓	✓	AWB
614/0	ROSEBERY PARK	✓	✓	AWB
647/0	GARDOM LAKE PARK	✓	✓	AWB
648/0	APEX MTN. REC. AREA	✓	✓	AWB
662/0	MARA PT. PARK	✓	✓	AWB
666/0	MONASHEE PARK	✓	✓	AWB
697/0	BOWRON UNREGULATED	✓	✓	AWB
704/0	STAGLEAP PARK	✓	✓	AWB
705/0	BEAVER CREEK PARK	✓	✓	AWB
706/0	ERIE CREEK PARK	✓	✓	AWB
707/0	NANCY GREENE PARK	✓	✓	AWB
708/0	SYRINGA CREEK PARK	✓	✓	AWB
709/0	ARROW LAKES PARK	✓	✓	AWB
710/0	NANCY GREENE REC. AREA	✓	✓	AWB
718/0	INONOAKLIN PARK	✓	✓	AWB
751/0	SILVER BEACH PARK	✓	✓	AWB
752/0	VICTOR LAKE PARK	✓	✓	AWB
753/0	MABEL LAKE PARK	✓	✓	AWB
755/0	ENEAS LAKES PARK	✓	✓	AWB
756/0	OKANAGAN MTN. PARK	✓	✓	AWB
757/0	SILVER STAR REC. AREA	✓	✓	AWB
758/0	PENNASK LAKE PARK	✓	✓	AWB
761/0	VALHALLA PARK	✓	✓	AWB

PSYU/BLOCK	DESCRIPTION	LEVEL		
		12.5	17.5	22.5
805/0	E.R.005 LILY PAD L.	✓	✓	AWB
806/0	E.R.006 BUCK HILLS RD.	✓	✓	AWB
832/0	E.R.032 EVANS LAKE	✓	✓	AWB
842/0	E.R.042 MARA MEADOWS	✓	✓	AWB
843/0	E.R.043 MT. GRIFFIN	✓	✓	AWB
849/0	E.R.049 KINGFISHER CRK.	✓	✓	AWB
865/0	E.R.065 CHASM	✓	✓	AWB
881/0	E.R.081 MORICE R.	✓	✓	AWB
907/0	E.R.107 CHUNAMON CRK.	✓	✓	AWB

* Notes: AWB = uses alternate waste and breakage factors provided with VDYP batch version 6.6d if selected on in the WOODLOT Settings Screen.

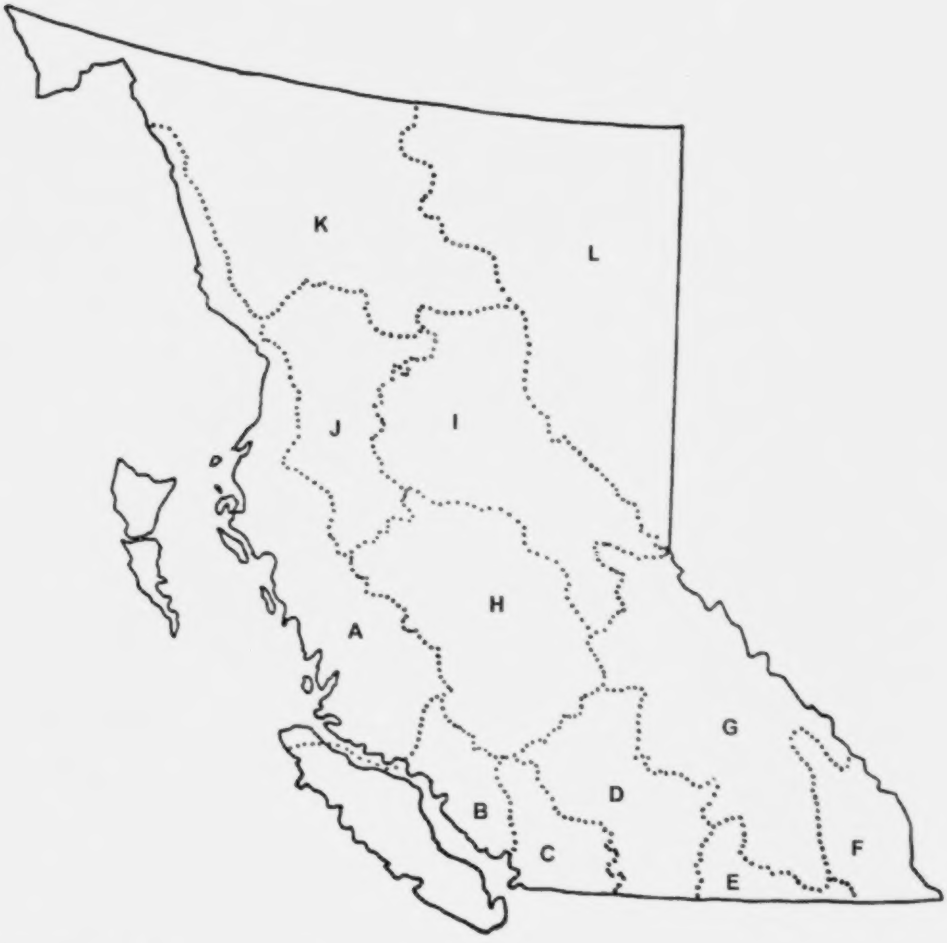
(Source: "VDYP Batch Application User Guide Version 6.6d" October, 1999, BC MOF, Resources Inventory Branch, updated to show PSYUs that use alternate waste and breakage factors in WOODLOT.)

UTILIZATION LEVEL CODES

Code	Description
12.5	includes trees 12.5+ cm DBH (ib)
17.5	includes trees 17.5+ cm DBH (ib)
22.5	includes trees 22.5+ cm DBH (ib)

Appendix 2 - Forest Inventory Zones (FIZ Zones) and FIZ Map

(Source: "VDYP Interactive Application User Guide Version 6.3" May 1995, and "VDYP Batch Application User Guide Version 6.6d" October, 1999, BC MOF, Resources Inventory Branch)



Value	Description
A	FIZ A (COASTAL)
B	FIZ B (COASTAL)
C	FIZ C (COASTAL)
D	FIZ D (INTERIOR)
E	FIZ E (INTERIOR)
F	FIZ F (INTERIOR)
G	FIZ G (INTERIOR)
H	FIZ H (INTERIOR)
I	FIZ I (INTERIOR)
J	FIZ J (INTERIOR)
K	FIZ K (INTERIOR)
L	FIZ L (INTERIOR)

Appendix 3 - Site Class-Site Index Relationships Used in VDYP

SPECIES	REGION	SITE CLASS			
		G SI	M SI	P SI	L SI
AC	PROV	26	18	9	3
AT	PROV	27	20	12	4
B, BA, BG	COASTAL	29	23	14	5
B, BA, BG	INTERIOR	18	15	11	5
BL	PROV	18	15	11	5
CW, YC	COASTAL	29	23	15	6
CW, YC	INTERIOR	22	19	13	5
DR	PROV	33	23	13	6
E, EP, EA	PROV	27	20	12	4
FD	COASTAL	32	27	18	7
FD	INTERIOR	20	17	12	5
H, HW, HM	COASTAL	28	22	14	5
H, HW, HM	INTERIOR	21	18	12	4
L, LW, LA, LT	PROV	20	16	10	3
MB	PROV	33	23	13	6
PL, PF, PJ, PA	PROV	20	16	11	4
PW	PROV	28	22	12	4
PY	PROV	17	14	10	4
S	COASTAL	28	21	11	4
SS	PROV	28	21	11	4
S	INTERIOR	19	15	10	5
SE, SW, SB	PROV	19	15	10	5

The above table can be used as a reference if you do not have specific site indices for use in VDYP.
(Source: "VDYP Batch Application User Guide Version 6.6d" October, 1999, BC MOF, Resources Inventory Branch)

Notes: Site class/site index relationships were calculated as follows:

- determine mid-point height at 100 years total age for each species and site class using Table 2 of Forest Inventory Report No. 1 (1981) 'Site index equations and curves for the major tree species in British Columbia'. Mid-point heights for the 'G' site classes were set at 1.5 m above the 'G'-'M' class break points; mid-point heights for the 'L' site classes were averages between the 'P'-'L' class break points and zero.
- calculate site index for each mid-point height at 100 years total age using the current, MOF approved, site index functions and round to the nearest meter to be consistent with FIP file format requirements.

Appendix 4 - VDYP Limits and Defaults

This appendix lists all the VDYP default values, the minimum and maximum values applied to various tree species throughout the province of BC.

Species	Location	Site Index Max (m at BH 50 yrs)	Age Max (yrs)	Height Max (m)	Crown Closure Min (%)	Crown Closure Max (%)	Crown Closure Age Min (yrs)	Default Crown Closure (%)
B	C	30	350	100	10	100	50	57
C	C	30	250	100	10	100	50	60
F	C	40	250	100	10	100	50	61
H	C	35	350	100	30	100	50	61
M	C	35	100	35	60	90	50	71
S	C	40	350	100	10	100	50	50
CT	C	45	150	100	60	100	50	61
B	I	20	250	100	10	100	50	42
C	I	20	250	100	10	100	50	51
F	I	25	250	100	10	100	50	48
H	I	20	350	100	10	100	50	51
S	I	25	350	100	10	100	50	46
CT	I	35	150	100	60	100	50	61
A	P	25	150	100	10	100	50	52
BA	P	30	350	100	10	100	50	57
BI	P	25	125	100	40	100	50	61
BL	P	20	250	100	10	100	50	42
D	P	35	60	35	50	100	50	72
L	P	25	175	100	10	100	50	54
PL	P	25	350	100	10	100	50	50
PW	P	30	350	100	40	100	50	55
PY	P	20	350	100	10	100	50	30
SS	P	40	350	100	10	100	50	50
SW	P	25	350	100	10	100	50	46

(Source: "VDYP Batch Application User Guide Version 6.6d" October, 1999 and WinVDYP 1.0 Help , BC MOF, Resources Inventory Branch)

Notes:

Location: The location of the species:
  C' for the coast (FIZ A to C)
  I' for the interior (FIZ D to L)
  P' for the province (FIZ A to L).

Site Index Max: The maximum Site Index (Breast Height Age 50 years in meters) that a species may attain when computing volumes/diameters.

Age Max: The maximum age for a species when computing volumes/diameters

Height Max: The maximum height in meters a species may reach when computing site index for volume/diameter calculations.

Crown Closure Min: The minimum crown closure in percent for a species, below which the default crown closure is used when computing volumes/diameters.

Crown Closure Max: The maximum crown closure in percent a species may reach when computing volumes/diameters.

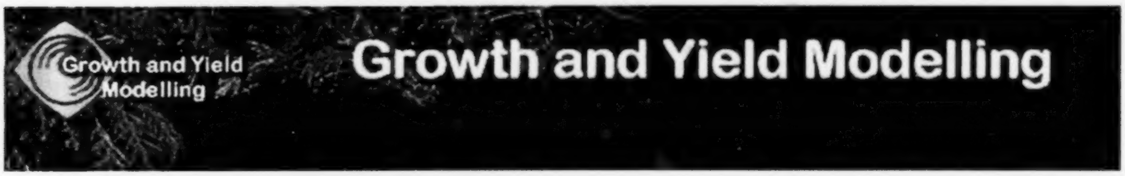
Crown Closure Age Min: The minimum age for which crown closure is accurately defined when computing volumes/diameters. Below this age, volumes should be adjusted linearly by a ration of the age over the minimum age.

Default Crown Closure: The crown closure in percent that should be used if no crown closure value is known.

Input variables supplied to BATCHPROCESS				**Variable(s) used to calculate**
AGE	**HEIGHT**	**SITEINDEX**	**SITECLASS**	**SITEINDEX**
yes (< 30 years)	yes	yes	yes	SITEINDEX
yes (< 30 years)	yes	yes	no	SITEINDEX
yes (< 30 years)	no	yes	yes	SITEINDEX
yes (< 30 years)	yes	no	yes	SITECLASS
yes (>=30 years)	yes	yes	yes	AGE/HEIGHT
yes (>=30 years)	yes	yes	no	AGE/HEIGHT
yes (>=30 years)	no	yes	yes	SITEINDEX
yes (>=30 years)	yes	no	yes	AGE/HEIGHT
no	yes	yes	yes	SITEINDEX

Appendix 5 - Managed or Natural Stands

(Source: BC Ministry of Forests website www.for.gov.bc.ca/research/gymodels/compare/compare.htm, 2001)



Comparing and Selecting Models

Table 1 (see following page) lists and compares a number of model characteristics and features that may be helpful in selecting an appropriate model for a given situation. Even though there are several models available, it is entirely possible that there may be situations where none of them are appropriate or where even the "best" one should be used with caution. There are a few simple, intuitive steps or questions that can help us select growth and yield models.

- Keep in mind your intended application, for example, is it silviculture, inventory or planning?
- What type of stand do you have and what kind of information do you currently have about it? You can set aside models that are not calibrated for your species and stand types. You can also determine if you currently have sufficient data to run a particular model, as some require more detailed data than others (e.g., permanent sample plot data versus inventory data).
- What type of density management treatment(s) you are interested in and how much treatment flexibility do you require? Although all the models in the table have some capability for stand density management, most only support a limited number of options.
- Finally, you will no doubt be exposed to conflicting results regarding these and other growth and yield models. Some differences are due to the models themselves but others stem from an emphasis on biology versus economics, or different interpretations of the historic theory versus science. Data from reproducible experiments should always be the ultimate arbitrator for both scientific theories and models. "***In God we trust; all others bring data***" (K. Iles, personal communication)

Table 1. Model Comparison Table (Stearns-Smith, 1999)

	Prognosis BC	**Mixedwood Growth Model (*MGM*)**	**Variable Density Yield Prediction (*VDYP*)**	**Tree and Stand Simulator (*TASS*)**	**Table Interpolation Program for Stand Yields (*TIPSY*)**
Developer	USFS Intermtn variant adapted to BC by BCFS	Steve Titus, U of Alberta	BCFS	Ken Mitchell, BCFS	BCFS
Distributor and Cost	BC MOF (free)	U of Alberta free (web)	BC MOF (free, web)	not distrib. BC MOF does free runs	BC MOF (free, web)
Model Type	Individual tree, distance independent	Individual tree, distance independent	whole stand	Individual tree, distance dependent	see TASS
Tree Input Data	Tree list	Tree list or stand description	Species composition, crown closure	Establishment density & spatial dist.	Establishment density
Site Productivity Input	Not SI, uses BC BEC and physiography	Site Index (SI)	SI	SI	SI
Species	Pw, Lw, Fd, Bg, Hw, Cw, Pl, Se, Py, Hm	Sw, At, Pl, (Sb)	32 commercial BC species	Fdc, Fdi, Hwc, Hwi, Ss, Bg, Cw, Pl, Sw	Fdc, Fdi, Hwc, Hwi, Ss, Bg, Cw, Pl, Sw
Stand Types	single and mixed-spp, even and uneven aged	mixedwood, even and uneven aged	single and mixed-spp, even aged	single-spp, even aged	single-spp, even aged (multi-spp area prorated)
Post-estab. activities supported	PCT, partial cutting	PCT, partial cutting		PCT, partial cutting, fertilization, pruning	PCT
Other growth modifiers	root disease		Decay, waste and breakage and VAF's	OAF's, some pests and diseases	OAFs, lodgepole repression
Output besides yield tables	projected tree lists, diameter distributions	projected tree lists, crop plans	ave diameter and culmination MAI	stand and tree visualization, wood characteristics, projected tree lists, etc	diameter distribution, lumber and logs, mortality and snags, economic analysis
Development Data Sources	USFS CFI and EP plus PSP from BC S. Interior	Alberta PSP	TSP	PSP & EP. BC, AB, WA, OR	see TASS
Unique Features & Applications	partial cutting in complex stands; pest and habitat models available	boreal mixedwood Requires EXCEL 97	natural stands CFI updating and timber supply analysis	spatially explicit; crown based, timber supply analysis, custom runs on request	yields from TASS, timber supply analysis and economic analysis

Abbreviations: BC MOF=BC Min of Forest; USFS=US Forest Service; OMNR=Ontario Min of Nat Res; CFS=Canadian Forest Service; PCT=pre-commercial thinning; EP=experimental plots; PSP=permanent sample plots; TSP=temporary sample plots; CFI=continuous forest inventory; OAF's=operational adjustment factors, VAF's=volume adjustment factors; MAI=mean annual increment; BEC=biogeoclimatic classification

Managed vs. Unmanaged Stands What Model Might be used?

The following information will help planners identify ***managed* vs. *unmanaged*** stands (polygons), for the application of appropriate yield models (curves). The distinction is important because managed stands tend to be more productive. A decision tree is provided to help make the distinction between ***managed*** and ***unmanaged*** stands and suggest yield models for various stand types (Nussbaum, 1998).

Managed stands

Managed stands are even-aged stands that have benefited from management activities to encourage their growth potential. They have known establishment conditions including species, density, and distribution of stems. ***Managed*** stands can be:

- planted or natural origin but have not experienced repression or overstory competition.
- harvested stands regenerated after 1986 which have achieved "free growing" status, as specified in the regional free growing guide books. For stands regenerated before 1987, silviculture records, management plans, and local knowledge are needed to determine if stands are managed.
- young spaced and fertilized stands if the establishment conditions can be approximated
- partially harvested stands, such as commercially thinned stands if they were unsuppressed or unrepressed during establishment, establishment conditions can be approximated, and removals are documented.

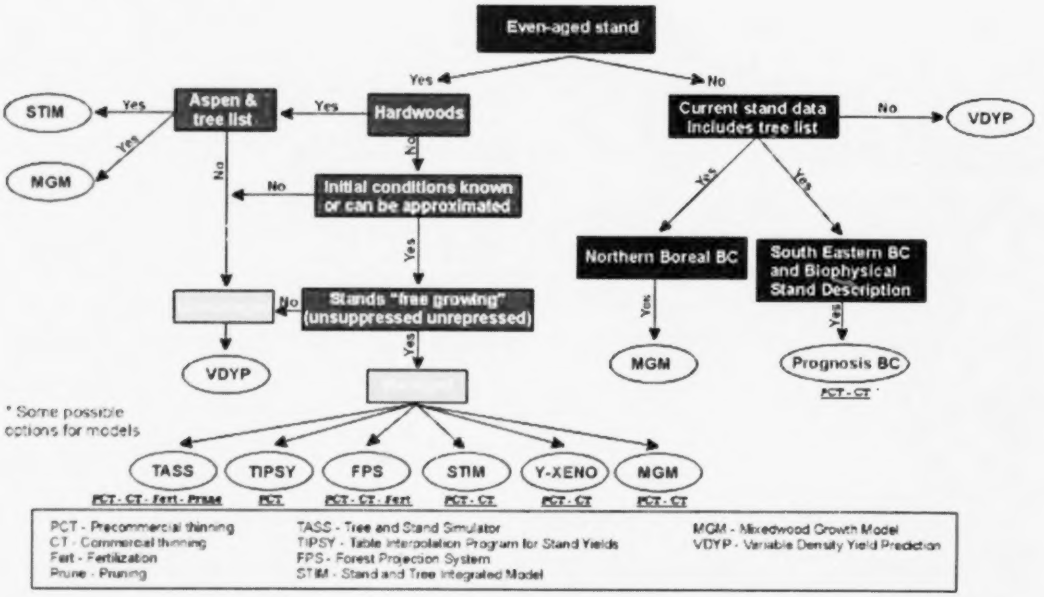
Unmanaged Stands

Even-aged stands have not had the benefits of management and their establishment conditions are unknown. Although some stands may achieve their potential, others may have inadequate stocking, experience overstory competition, or repression.

Uneven-aged stands are considered ***unmanaged*** for this exercise, as the concept of establishment conditions holds little meaning, and a large number of stems could be suppressed by an overstory. These stands generally contribute to non-timber objectives where maximizing growth is not the primary concern. They have historically been handled as "naturals".

Models Decision Tree

Forest growth and yield models have been developed for many different purposes. It is important to choose the proper model and understand its assumptions and limitations. Models can be sophisticated computer models or simple yield tables derived from appropriate data. The above distinction between ***managed*** and ***unmanaged*** stands should


Even-aged stand
Yes
No
Hardwoods
Yes
Aspen & tree list
Yes
STIM
Yes
MGM
No
No
Initial conditions known or can be approximated
No
Yes
Stands "free growing" (unsuppressed unrepressed)
No
VDYP
Yes
Current stand data includes tree list
No
VDYP
Yes
Yes
Northern Boreal BC
South Eastern BC and Biophysical Stand Description
Yes
MGM
Yes
Prognosis BC
PCT - CT *
* Some possible options for models
TASS
PCT - CT - Fert - Prune
TIPSY
PCT
FPS
PCT - CT - Fert
STIM
PCT - CT
Y-XENO
PCT - CT
MGM
PCT - CT

PCT - Precommercial thinning
CT - Commercial thinning
Fert - Fertilization
Prune - Pruning

TASS - Tree and Stand Simulator
TIPSY - Table Interpolation Program for Stand Yields
FPS - Forest Projection System
STIM - Stand and Tree Integrated Model

MGM - Mixedwood Growth Model
VDYP - Variable Density Yield Prediction

* Note: This doesn't constitute Ministry of Forests approval of all yield curve outputs from these models, nor does it restrict use to just these models

A word of caution about models!

Forestry and statistically based biological experimentation are both relatively new sciences whose joint development is governed largely by the (slow) rate of tree growth. Seeming contradictions among the limited existing experiments serve to highlight our imperfect understanding of complex biological systems and discourage risk-laden investment decisions based on limited (or select) information. Decision making given imperfect information requires risk analyses that take into account the uncertainties regarding future biological and economic consequences. Models can be important tools, but we should not rely solely on them for making decisions. Use your professional judgment to examine your own data and assumptions before making the final management decision.

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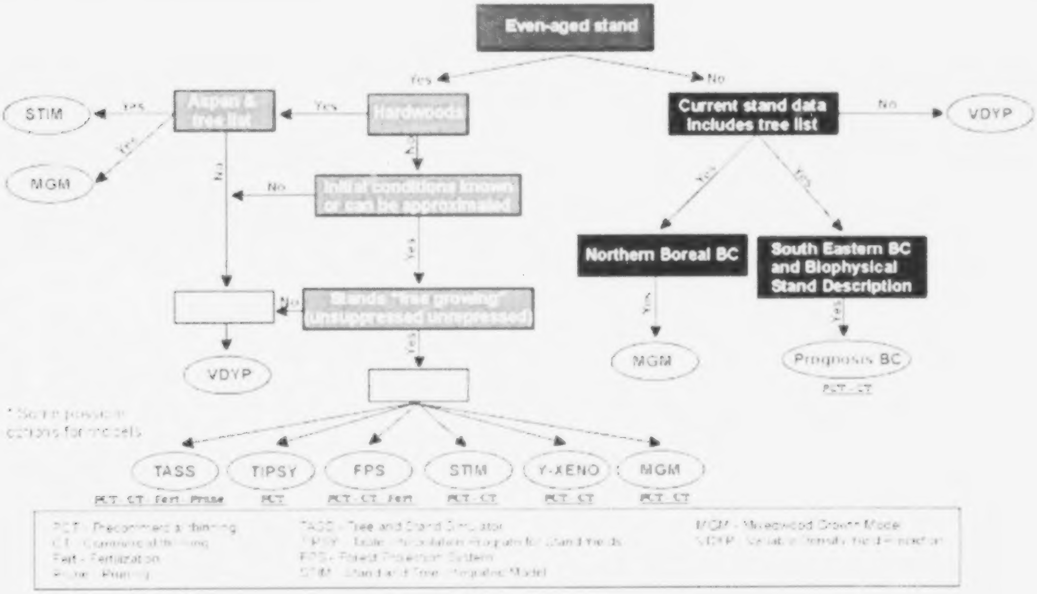
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MGM
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Model Application and Use

Selecting a model is only half the battle. Proper use of a model also depends on proper selection and preparation of the input data and proper interpretation of the model output. This is why most regulatory agencies avoid any open or implied sanctioning of specific models in favor of yield table approvals.

The main uses of growth and yield predictions are to:

- increment and update forest inventories
- compare silviculture treatments by simulating treatments and predicting outcomes
- influence stand and forest level decision making
- provide input for forest management planning including timber supply analysis, Allowable Annual Cut (AAC) determinations and policy making
- assess the impact of timber losses due to pests and fire
- allow extrapolations for missing or inadequate data
- explore and teach tree and stand dynamics

The application of any model in silvicultural decision support also requires a clear statement of management objectives translated into appropriate quantitative values that can be identified in model output. Care must be taken to understand the implications and limitations of using various quantitative measures as surrogates for management objectives.

Appendix 6 - VDYP or TIPSY

(Source: adapted from TIPSY 3.0 Help File, BC MOF, Resources Inventory Branch)

VDYP

The Variable Density Yield Prediction (VDYP) system was developed by Inventory Branch using randomly located plots that cover the full range of conditions found in our forestland base. Consequently, VDYP projects the average yield of naturally regenerated stands that have not been treated. The empirical yields from VDYP will invariably be lower than the potential yields given by TIPSY. Yields from VDYP can be adjusted to approximate local actual volumes by using the Volume Adjustment Factor (VAF).

VDYP should be used for determining yields on naturally occurring unmanaged stands.

TIPSY

The Table Interpolation Program for Stand Yields (TIPSY) is a program that utilizes yield tables derived for managed stands. These stands have had treatments to bring them to a free growing, well stocked state, for stands spaced at 4-6 m, for stands that have been previously harvested and reforested to a well stocked state and reforested with known establishment conditions including species, density and distribution of stems.

TASS generates the yield tables in TIPSY's database. TASS, the Tree and Stand Simulator, is a computer model that simulates the growth of individual trees and stands in three dimensions. The crowns of individual trees expand and contract asymmetrically as branch extension responds to internal growth processes, physical restrictions imposed by the crowns of competitors, environmental factors and silvicultural practices. The crowns add a shell of foliage each year that benefits the trees in diminishing amounts for several years. The volume increment produced by the foliage is distributed over the bole annually and accumulated to provide tree and stand statistics.

TASS is based on growth trends observed in fully stocked, near ideal, research plots growing in a relatively pest-free environment. The yields will be very close to the potential of a specific site, species and management regime. TIPSY yields are adjusted to approximate operational conditions by using Operational Adjustment Factors (OAFs). Refer to Mitchell and Cameron (1985) and Mitchell (1975) for more information on TASS. Research Branch maintains the system.

TIPSY should be used for managed stands. Default OAFs should be used unless you have better information.

Appendix 7 - Tree Species Used in WOODLOT

VDYP Species Used in WOODLOT

Species	Species Code Used in WOODLOT	C=Conifer D=Decid	C=Commercial NC=Non-commercial	Alternate Species Codes				
Alder-Mountain	DM	D	N					
Alder-Red	DR	D	C	D				
Alder-Sitka Green	DG	D	N					
Arbutus	RA	D	N	R				
Aspen-Trembling	AT	D	C	A				
Balsam	B	C	C	BN	BB	ABAL	ABCO	
Birch	E	D	C	BI	EA			
Birch-Bog	EB	D	N					
Birch-Silver/Paper	EP	D	C	BV				
Birch-Swamp	ES	D	N					
Birch-Water	EW	D	N					
Cascara	KC	D	N	K				
Cedar-Western Red	CW	C	C	C				
Cedar-Yellow	YC	C	C	CY				
Cottonwood / Poplar	AC	D	C	CO	COT	CT	ACB	ACT
Cherry-Bitter	VB	D	N	V				
Dogwood-Pacific	GP	D	N	G				
Dogwood-Red-Osier	GR	D	N					
Fir-Alpine	BL	C	C					
Fir-Amabilis/Silver	BA	C	C					
Fir-Douglas	FD	C	C	DF	FDC	FDI	F	
Fir-Grand	BG	C	C					
Hemlock	H	C	C					
Hemlock-Mountain	HM	C	C					
Hemlock-Western	HW	C	C					
Larch	L	C	C					
Larch-Alpine	LA	C	C					
Larch-Tamarack	LT	C	C					
Larch-Western	LW	C	C					
Maple-Broadleaved	MB	D	C	M				
Maple-Rocky Mountain	MR	D	N					
Maple-Vine	MV	D	N					
Oak-Garry	QG	D	N	Q				
Pine-Jack	PJ	C	C					
Pine-Lodgepole	PL	C	C	PLC	PLI	P		
Pine-Western White	PW	C	C					

Species	**Species Code Used in WOODLOT**	**C=Conifer D=Decid**	**C=Commercial NC=Non-commercial**	**Alternate Species Codes**				
Pine-Whitebark	PA	C	C					
Pine-Yellow	PY	C	C	PV				
Pinus Flexilis	PF	C	C					
Rocky Mountain Juniper	JR	D	N					
Spruce	S	C	C	SX	SI			
Spruce-Black	SB	C	C					
Spruce-Engelmann	SE	C	C					
Spruce-Sitka	SS	C	C					
Spruce-White	SW	C	C					
Willow	WI	D	N					
Yew-Pacific Western	TW	D	N	T				

TIPSY Species Used In WOODLOT

Species*	FIZ Group** Coast (A to C) Interior (D to Z) All BC (A to Z)	Main Species Codes Used in WOODLOT	Surrogate Species Used	Alternate Species Codes					
Amabilis Fir*	All BC	BA	Western hemlock						
Balsam*	Coast	B	Western hemlock						
Balsam*	Interior	B	White spruce						
Cedar	All BC	CW		C					
Douglas Fir	All BC	FD		DF	FDC	FDI	F	DFC	DFI
Engelmann Spruce*	All BC	SE	White spruce						
Grand Fir*	All BC	BG	Western hemlock						
Hemlock	Coast	HW							
Hemlock	Interior	HW							
Jack Pine*	All BC	PJ	Interior Douglas Fir						
Larch*	All BC	L	Interior Douglas-fir	LA	LT	LW			
Limber Pine*	All BC	PF	Interior Douglas Fir						
Lodgepole Pine	All BC	PL		PLC	PLI	P			
Ponderosa (Yellow) Pine*	All BC	PY	Interior Douglas-fir	PV					
Sitka Spruce	Coast	SS							
Subalpine Fir*	All BC	BL	White spruce						
Western White Pine*	All BC	PW	Interior Douglas-fir						
White Spruce	Interior	SW		SX	SI				
Whitebark Pine*	All BC	PA	Interior Douglas Fir						
Yellow Cedar*	All BC	YC	Western redcedar	CY					

Notes:

* Denotes that this species is modeled in TIPSY using a surrogate species.

** TIPSY will use the coastal or interior yield curve depending on the noted FIZ group. In some cases, only one yield curve is used for the entire province (e.g. cedar and yellow cedar).

(Source: TIPCONV file provided with BTIPSY 3.0a July, 2000, BC MOF, Resources Inventory Branch)

Appendix 8 - Variables Used in WOODLOT

The following variable names should be used in each column when building a ".csv" or ".xls" file for loading in through the polygon data screen.

Do not leave any blank numbers or empty rows. The first row (line) in the CSV file must contain the EXACT Woodlot variable name as listed below. Columns do not have to be in any specific order. Any columns with header names not listed below will be ignored by Woodlot.

Variable		Required For	Def	Type	Description of variables to use
COMMON	NAME**	VDYP & TIPSY	N	1-12 char	Polygon identifier**
	AREA	VDYP & TIPSY	Y	decimal	Net operable area
	AGE	VDYP & TIPSY	Y	integer	Current Age
	UTILIZ	VDYP & TIPSY	Y	decimal	Utilization level
	FIZ	VDYP & TIPSY	Y	1 char	Forest Inventory Zone (A-L)
HARV/SILIVI	PC	VDYP & TIPSY	Y	integer	Partial Cut (0=off / 1=activated)
	PCPERC	Partial Cut	Y	integer	Partial cut percent removal
	PCNEXT	Partial Cut	Y	integer	Partial cut number of years until reentry
	HAR1	Not Required	Y	integer	First Harvest Age
	HAR2	Not Required	Y	integer	Subsequent Harvest Age
	EXISTINGMGNT	VDYP & TIPSY	Y	integer	Existing management type (0=VDYP 1=TIPSY)
	FUTUREMGNT	VDYP & TIPSY	Y	integer	Future management type (0=VDYP 1=TIPSY)
VDYP	VAGETOTAL	VDYP Site Index	Y	integer	Total Age Only use if there is no SI
	VHEIGHTTOTAL	VDYP Site Index	Y	integer	Total Height Only use if there is no SI
	VSITEINDEX	VDYP	Y	decimal	VDYP Site Index
	CLOSURE	VDYP	Y	integer	Crown Closure
	STOCKING	VDYP	Y	1 char	Stocking Class
	PSYU	VDYP	Y	integer	PSYU number
	PSYUBLOCK	Extras	Y	1 char	PSYU block (should be turned off in settings)
	REGION	PSYU	Y	2 char	Region (can be used to find PSYU)
	COMP	PSYU	Y	3 char	Compartment (can be used to find PSYU)
	COMPL	PSYU	Y	1 char	Compartment Letter (can be used to find PSYU)
	VAF	VDYP	Y	decimal	Volume Adjustment Factor
	VS1....VS6	VDYP	Y	2 char	Species codes
	VP1....VP6	VDYP	Y	integer	Species composition percents
TIPSY	TAGETOTAL	TIPSY	Y	integer	Tipsy total age to calculate site index
	DENSITY	TIPSY	Y	integer	Initial Density at establishment (stems / ha)
	THINNED	TIPSY	Y	integer	Thinned to density (stems / ha)
	THIN	TIPSY	Y	integer	Is the stand thinned (0=no 1=yes)
	REGEN	TIPSY	Y	integer	Regeneration type (0=natural 1=planted)
	OAF1	Extras	Y	integer	OAF1 per polygon if extras are turned on
	OAF2	Extras	Y	integer	OAF2 per polygon if extras are turned on
	TS1....TS5	TIPSY	Y	2 char	Species codes
	TP1....TP5	TIPSY	Y	integer	Species composition percents
	TI1	TIPSY	Y	integer	Site index
	TI2....TI5	Extras	Y	integer	Site index per species if turned on
	TH1	TIPSY	Y	integer	Total height
	TH2....TH5	Extras	Y	integer	Total height per species if turned on

**Defaults are taken from the default polygons. Please refer to manual if you are unsure about creating a default polygon*
*** A polygon name is required for each polygon. This value may not be omitted. In WOODLOT version 3.0, this variable replaces the Mapsheet and Polygon variables.*

This feature has not been updated in Version 3 to include variables for new TIPSY features (genetic worth, fertilization, CT), Non-commercial, NSR, Road Net.

When a CSV file is imported.

1. Woodlot adds a new polygon with the mapsheet and polygon name specified in the CSV file.
2. Data is copied from the default polygon to the new polygon
3. The new polygon is then updated from the rest of the columns in your CSV file.

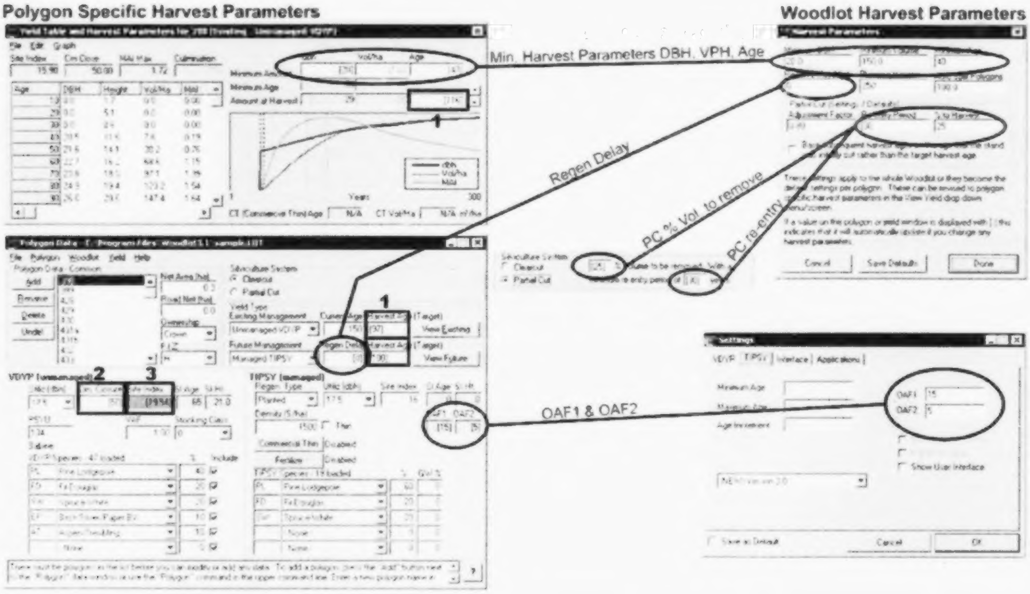
Appendix 9 - Default Values and Harvest Parameters

Default values are used for some variables in WOODLOT if the user has not specified a value. There are several types of default values, and all may be manually overridden by simply typing over them. Defaults include:

- Defaults assigned from the "Default Polygon". These values are used to fill in data that the user has not specified, but is required to run a calculation. The default polygon values will override the other default values denoted by a [ ]. Refer to section *"0 Polygon" on* how to reset your Default Polygon.
- Defaults assigned from another screen, include:
    - ☐ harvest parameters in the Yield Table and Harvest Parameters screen, which are derived from the Harvest Parameters Screen (under the Summary screen).
    - ☐ regen delay in Polygon Data, which is derived from the Harvest Parameters Screen (under the Summary screen).
    - ☐ Partial Cut settings under Silviculture System in Polygon Data, which are derived from the Harvest Parameters Screen (under the Summary screen).
    - ☐ TIPSY OAFs in Polygon Data, which are derived from the Settings screen.
- Defaults that are calculated in WOODLOT, including Harvest Age, VDYP Site Index and VDYP Crown Closure in Polygon Data

Default values which are "assigned" from other areas in WOODLOT or that are "calculated" are denoted by square brackets [ ]. Values set by your "Default Polygon" are not bracketed. The following diagrams show the default values that link between screens, and default values that are calculated.

The data boxes shown in black circles below (Harvest Parameters, Regen Delay, PC% Volume to Remove, PC Re-entry years, OAF1 & OAF2) have their values "assigned" from another screen in WOODLOT. The data boxes shown in black rectangles below (1=harvest ages, 2=Crown Closure, 3=Site Index) have their values "calculated" by WOODLOT. All of these values can be manually overridden by simply typing over them.


Polygon Specific Harvest Parameters
Woodlot Harvest Parameters
Min. Harvest Parameters DBH, VPH, Age
Regen Delay
PC % Vol. to remove
PC re-entry
OAF1 & OAF2
1
1
2
3

When a value is set to use a default number (e.g. if the PC% shows [20]% in the Polygon Data screen), it will be automatically updated if the default number is changed in the parent screen. For example, If you change the PC% to 40% in the Harvest Parameters, the PC% will be updated to [40]% in the Polygon Data screen for all polygons.

You can reset a data box to use the default value by entering a non-numeric value in the box you wish to use with defaults. A non-numeric value could be any text or symbol such as a [square bracket]. Once reset to use a default value, the data box will appear with [ ].

Defaults that are calculated in WOODLOT include:

1. ***Harvest Age**, which will default to use the **lowest age** derived from the combination of harvest parameters (minimum dbh, minimum vol/ha, minimum age and culmination age)*
2. ***Site Index**, which will be selected by VDYP if a valid SI (total) age and SI Height have been entered.*
3. ***Crown Closure**, which will be selected by VDYP if a valid SI Height and PSYU have been entered.*

Harvest Parameters are set for the whole woodlot in the Harvest Parameters screen. These are then carried forward to each polygon in the Polygon Data Screen, under the "Yield Table and Harvest Parameters" screen for the individual polygon. They may be modified manually for each polygon in the "Yield Table and Harvest Parameters" screen.

Appendix 10 - Sample WOODLOT Report

Woodlot Licence Harvest Planning report

Date	: 21 March, 2002
Woodlot Licence#	: Sample
Forest District	: Morice
Company	: Enfor Consultants Ltd.
User	: Richard Kyle
Woodlot File	: C:\Program Files\Woodlot3.1\sample.LOT
Scenario	: 1

Model Information:

Woodlot File	: Release3.100 - January 2002
Woodlot Version	: Release3.100 - January 2002 - WIN95/98/ME/NT4/2000/XP
VDYP Version	: Prod 6.6d4
TIPSY Version	: 3.0a

Summary:

Total Net Area	: 527.3 ha
Netdown Area	: 527.3 ha
MAI Existing	: 2.21 m^3/ha/year
MAI Future	: 3.09 m^3/ha/year
Harvest Rate	: 1,591 m^3/year

1.0 Introduction

This section summarises information used to calculate a long term harvest rate on Woodlot Licence No. Sample. The calculated harvest rate can be used to assist in determining the allowable annual cut (AAC). It should be assessed in light of the assumptions used, social and economic considerations in determining the AAC.

Refer to "Section 6.0" for definition of column headers.

2.0 Polygon Data

a) General Information and Current Volumes

Polygon	Own	Area (ha)	Current Age	VAF	PSYU	FIZ	Mgmt Type	Silv Sys	Vol/ha (m^3/ha)	Volume (m^3)
398	C	0.3	150	1.00	0134	H	V/T	CC	314	94
399	C	0.8	232	1.00	0134	H	V/T	CC	183	146
428	C	5.2	200	1.00	0134	H	V/V	PC	363	1,888
429	C	12.0	99	1.00	0134	H	V/T	CC	210	2,514
430	C	10.8	200	1.00	0134	H	V/V	PC	277	2,989
431a	C	16.1	140	1.00	0134	H	V/T	CC	367	5,905
431b	C	16.1	140	1.00	0134	H	V/T	CC	367	5,905
432	C	14.0	120	1.00	0134	H	V/V	PC	221	3,095
433	C	4.6	190	1.00	0134	H	V/T	CC	389	1,788
434a	C	17.4	120	1.00	0134	H	V/T	CC	288	5,008
434b	C	17.4	120	1.00	0134	H	V/T	CC	288	5,008
435	C	13.2	140	1.00	0134	H	V/T	CC	345	4,558
435P	P	0.7	140	1.00	0134	H	V/T	CC	345	242
436	C	4.5	120	1.00	0134	H	V/T	CC	207	929
452	C	5.7	110	1.00	0134	H	V/T	CC	226	1,286
453	C	0.5	140	1.00	0134	H	V/T	CC	127	63
454	C	5.9	140	1.00	0134	H	V/T	CC	151	893

459a	C	18.9	120	1.00	0134	H	V/T	CC	361	6,825
459b	C	18.8	120	1.00	0134	H	V/T	CC	361	6,789
459P	P	11.1	120	1.00	0134	H	V/T	CC	361	4,008
460	C	16.2	120	1.00	0134	H	V/T	CC	171	2,773
461	C	5.7	140	1.00	0134	H	V/T	CC	343	1,957
461P	P	5.7	140	1.00	0134	H	V/T	CC	343	1,957
462	C	5.3	129	1.00	0134	H	V/T	CC	305	1,619
462P	P	2.2	129	1.00	0134	H	V/T	CC	305	672
463	C	13.6	140	1.00	0134	H	V/T	CC	313	4,261
481	C	6.1	140	1.00	0134	H	V/T	CC	29	174
482	C	5.9	140	1.00	0134	H	V/T	CC	185	1,092
484a	C	13.0	60	1.00	0134	H	V/T	CC	111	1,438
484b	C	12.5	60	1.00	0134	H	V/T	CC	111	1,383
486	C	2.3	190	1.00	0134	H	V/T	CC	262	604
490	C	12.0	180	1.00	0134	H	V/T	CC	235	2,821
491a	C	16.0	190	1.00	0134	H	V/T	CC	334	5,336
491b	C	17.0	190	1.00	0134	H	V/T	CC	334	5,670
493a	C	13.0	120	1.00	0134	H	V/T	CC	206	2,677
493b	C	13.6	120	1.00	0134	H	V/T	CC	206	2,800
494	C	10.9	140	1.00	0134	H	V/T	CC	382	4,162
495	C	5.7	180	1.00	0134	H	V/T	CC	340	1,937
496a	C	14.1	120	1.00	0134	H	V/T	CC	294	4,151
496b	C	14.2	120	1.00	0134	H	V/T	CC	294	4,180
497	C	7.2	100	1.00	0134	H	V/V	PC	212	1,528
516	C	1.9	140	1.00	0134	H	V/T	CC	337	641
520	C	21.6	160	1.00	0134	H	V/T	CC	293	6,337
522	C	1.3	180	1.00	0134	H	V/T	CC	280	364
524	C	6.8	180	1.00	0134	H	V/T	CC	303	2,063
526	C	7.8	180	1.00	0134	H	V/T	CC	277	2,161
528	C	16.3	190	1.00	0134	H	V/V	PC	339	5,521
529	C	9.2	200	1.00	0134	H	V/T	CC	275	2,525
530	C	5.5	30	1.00	0134	H	V/T	CC	0	0
531	C	10.1	200	1.00	0134	H	V/T	CC	261	2,639
532	C	5.4	150	1.00	0134	H	V/T	CC	305	1,645
533	C	2.0	200	1.00	0134	H	V/T	CC	208	417
543	C	6.2	60	1.00	0134	H	V/T	CC	102	634
546	C	6.4	60	1.00	0134	H	V/T	CC	130	834
548	C	16.3	170	1.00	0134	H	V/T	CC	303	4,936
550	C	4.3	90	1.00	0134	H	V/T	CC	220	946
Crown (C)		**507.6**								**137,911**
Private (P)		**19.7**								**6,879**
Top-Up (T)		**0.0**								**0**
Other (O)		**0.0**								**0**
TOTAL		**527.3**								**144,790**

b) VDYP (unmanaged) Specific

Polygon	SI (m)	CC (%)	Stk Cls	S1	%	S2	%	S3	%	S4	%	S5	%	S6	%
398	19.5	[50]	0	PL	40	FD	20	SW	20	EP	10	AT	10		
399	11.3	60	0	FD	90	PL	10								
428	15.2	60	0	FD	60	SW	30	PL	10						
429	17.1	50	0	SW	40	EP	30	BL	10	FD	10	PL	10		
430	15.2	60	0	FD	80	SW	10	AT	10						
431a	19.0	60	0	PL	60	SW	30	AT	10						
431b	19.0	60	0	PL	60	SW	30	AT	10						
432	19.3	60	0	AT	70	SW	20	EP	10						
433	17.1	70	0	FD	85	SW	10	PL	5						
434a	18.6	50	0	SW	40	AT	30	PL	20	EP	10				
434b	18.6	50	0	SW	40	AT	30	PL	20	EP	10				
435	17.4	50	0	SW	60	FD	10	PL	10	AT	10	EP	10		
435P	17.4	50	0	SW	60	FD	10	PL	10	AT	10	EP	10		
436	19.3	50	0	AT	80	SW	20								
452	18.1	50	0	PL	60	EP	20	SW	10	AT	10				
453	9.7	30	0	PL	60	SW	20	EP	20						
454	9.8	50	0	SW	50	AT	20	EP	10	BL	10	FD	10		
459a	19.2	70	0	PL	90	SW	10								

459b	19.2	70	0	PL	90	SW	10								
459P	19.2	70	0	PL	90	SW	10								
460	17.0	50	0	AT	70	SW	20	EP	10						
461	18.1	70	0	PL	70	FD	10	SW	10	AT	10				
461P	18.1	70	0	PL	70	FD	10	SW	10	AT	10				
462	16.0	70	0	PL	70	SW	30								
462P	16.0	70	0	PL	70	SW	30								
463	17.2	50	0	PL	60	SW	30	AT	10						
481	6.0	30	0	SB	80	PL	20								
482	9.2	50	0	SW	70	PL	20	BL	10						
484a	17.6	60	0	PL	90	SW	10								
484b	17.6	60	0	PL	90	SW	10								
486	10.5	50	0	SW	80	AT	10	PL	10						
490	8.4	50	0	SW	60	PL	20	BL	20						
491a	15.4	60	0	PL	90	SW	10								
491b	15.4	60	0	PL	90	SW	10								
493a	17.0	60	0	AT	40	SW	20	EP	20	FD	10	PL	10		
493b	17.0	60	0	AT	40	SW	20	EP	20	FD	10	PL	10		
494	19.9	60	0	PL	60	SW	20	AT	10	FD	10				
495	15.2	50	0	SW	80	FD	10	EP	10						
496a	16.5	70	0	PL	100										
496b	16.5	70	0	PL	100										
497	15.3	60	0	SW	70	AT	20	PL	10						
516	16.3	70	0	PL	100										
520	11.6	50	0	SW	55	PL	40	AT	5						
522	11.8	50	0	SW	80	PL	10	AT	10						
524	14.8	60	0	PL	50	SW	40	BL	10						
526	9.7	50	0	SW	70	PL	20	BL	10						
528	15.4	60	0	PL	70	SW	30								
529	10.7	50	0	SW	70	BL	10	PL	10	AC	10				
530	22.2	40	0	SW	80	PL	10	AT	10						
531	9.9	40	0	SW	70	BL	20	PL	10						
532	15.0	60	0	PL	90	SW	10								
533	9.2	20	0	SW	80	BL	10	AC	10						
543	19.2	60	0	SW	60	AT	30	PL	10						
546	19.2	50	0	SW	90	PL	10								
548	11.0	50	0	SW	70	PL	30								
550	16.8	60	0	SW	80	PL	10	BL	10						

c) TIPSY (Managed) Specific

Polygon	SI (m)	Dens (s/ha)	Thin (s/ha)	Regen	S1	%	S2	%	S3	%	S4	%	S5	%
398	16.0	1,500	n/a	Planted	PL	60	FD	20	SW	20				
399	11.0	1,500	n/a	Planted	FD	90	PL	10						
428														
429	17.0	1,500	n/a	Planted	SW	70	BL	10	FD	10	PL	10		
430														
431a	19.0	1,500	n/a	Planted	PL	70	SW	30						
431b	19.0	1,500	n/a	Planted	PL	70	SW	30						
432														
433	17.0	1,500	n/a	Planted	FD	85	SW	10	PL	5				
434a	19.0	1,500	n/a	Planted	SW	80	PL	20						
434b	19.0	1,500	n/a	Planted	SW	80	PL	20						
435	17.0	1,500	n/a	Planted	SW	80	FD	10	PL	10				
435P	17.0	1,500	n/a	Planted	SW	80	FD	10	PL	10				
436	19.0	1,500	n/a	Planted	SW	100								
452	18.0	1,500	n/a	Planted	PL	90	SW	10						
453	10.0	1,500	n/a	Planted	PL	80	SW	20						
454	10.0	1,500	n/a	Planted	SW	80	BL	10	FD	10				
459a	19.0	1,500	n/a	Planted	PL	90	SW	10						
459b	19.0	1,500	n/a	Planted	PL	90	SW	10						
459P	19.0	1,500	n/a	Planted	PL	90	SW	10						
460	17.0	1,500	n/a	Planted	SW	100								
461	18.0	1,500	n/a	Planted	PL	80	FD	10	SW	10				
461P	18.0	1,500	n/a	Planted	PL	80	FD	10	SW	10				

462	16.0	1,500	n/a	Planted	PL	70	SW	30						
462P	16.0	1,500	n/a	Planted	PL	70	SW	30						
463	17.0	1,500	n/a	Planted	PL	70	SW	30						
481	6.0	1,500	n/a	Planted	SW	80	PL	20						
482	9.0	1,500	n/a	Planted	SW	70	PL	20	BL	10				
484a	18.0	1,500	n/a	Planted	PL	90	SW	10						
484b	18.0	1,500	n/a	Planted	PL	90	SW	10						
486	10.0	1,500	n/a	Planted	SW	90	PL	10						
490	8.0	1,500	n/a	Planted	SW	60	PL	20	BL	20				
491a	15.0	1,500	n/a	Planted	PL	90	SW	10						
491b	15.0	1,500	n/a	Planted	PL	90	SW	10						
493a	17.0	1,500	n/a	Planted	SW	70	FD	20	PL	10				
493b	17.0	1,500	n/a	Planted	SW	70	FD	20	PL	10				
494	20.0	1,500	n/a	Planted	PL	70	SW	20	FD	10				
495	15.0	1,500	n/a	Planted	SW	90	FD	10						
496a	16.0	1,500	n/a	Planted	PL	100								
496b	16.0	1,500	n/a	Planted	PL	100								
497														
516	16.0	1,500	n/a	Planted	PL	100								
520	12.0	1,500	n/a	Planted	SW	60	PL	40						
522	12.0	1,500	n/a	Planted	SW	90	PL	10						
524	15.0	1,500	n/a	Planted	PL	50	SW	40	BL	10				
526	10.0	1,500	n/a	Planted	SW	70	PL	20	BL	10				
528														
529	11.0	1,500	n/a	Planted	SW	80	BL	10	PL	10				
530	22.0	1,500	n/a	Planted	SW	90	PL	10						
531	10.0	1,500	n/a	Planted	SW	70	BL	20	PL	10				
532	15.0	1,500	n/a	Planted	PL	90	SW	10						
533	9.0	1,500	n/a	Planted	SW	90	BL	10						
543	19.0	1,500	n/a	Planted	SW	90	PL	10						
546	19.0	1,500	n/a	Planted	SW	90	PL	10						
548	11.0	1,500	n/a	Planted	SW	70	PL	30						
550	17.0	1,500	n/a	Planted	SW	80	PL	10	BL	10				

d) TIPSY Enhanced Management Variables

Polygon	CT@	CT To	Fert	Fert	S1	GW	S2	GW	S3	GW	S4	GW	S5	GW
	(m)	(s/ha)	Year	Vol		(%)		(%)		(%)		(%)		(%)
398														
399														
428														
429														
430														
431a														
431b														
432														
433														
434a														
434b														
435														
435P														
436														
452														
453														
454														
459a														
459b														
459P														
460														
461														
461P														
462														
462P														
463														
481														
482														

484a														
484b														
486														
490														
491a														
491b														
493a														
493b														
494														
495														
496a														
496b														
497														
516														
520														
522														
524														
526														
528														
529														
530														
531														
532														
533														
543														
546														
548														
550														

e) Polygon Yields

Polygon	Yield Ex/Fut	Cul. Age	C Vol (m^3/ha)	C MAI ($m^3/ha/yr$)	Target Age	T Vol (m^3/ha)	T MAI ($m^3/ha/yr$)	PC %	Reentry Year
398	VDYP	97	228	2.35	[97]	228	2.35		
	TIPSY	100	267	2.67	[100]	267	2.67		
399	VDYP	157	131	0.83	[183]	151	0.82		
	TIPSY	190	156	0.82	[230]	180	0.78		
428	VDYP	130	267	2.05	[130]	267	2.05	[25]	[30]
	PC							[25]	[30]
429	VDYP	125	277	2.21	[125]	277	2.21		
	TIPSY	100	359	3.59	[100]	359	3.59		
430	VDYP	131	200	1.52	[131]	200	1.52	[25]	[30]
	PC							[25]	[30]
431a	VDYP	104	286	2.75	[104]	286	2.75		
	TIPSY	80	323	4.04	[80]	323	4.04		
431b	VDYP	104	286	2.75	[104]	286	2.75		
	TIPSY	80	323	4.04	[80]	323	4.04		
432	VDYP	100	197	1.97	[100]	197	1.97	[25]	[30]
	PC							[25]	[30]
433	VDYP	131	291	2.22	[131]	291	2.22		
	TIPSY	120	307	2.56	[120]	307	2.56		
434a	VDYP	115	276	2.40	[115]	276	2.40		
	TIPSY	90	390	4.33	[90]	390	4.33		
434b	VDYP	115	276	2.40	[115]	276	2.40		
	TIPSY	90	390	4.33	[90]	390	4.33		
435	VDYP	112	287	2.56	[112]	287	2.56		
	TIPSY	100	362	3.62	[100]	362	3.62		
435P	VDYP	112	287	2.56	[112]	287	2.56		
	TIPSY	100	362	3.62	[100]	362	3.62		
436	VDYP	95	176	1.85	[95]	176	1.85		
	TIPSY	90	398	4.42	[90]	398	4.42		
452	VDYP	124	256	2.06	[124]	256	2.06		
	TIPSY	80	289	3.61	[80]	289	3.61		
453	VDYP	136	123	0.91	[186]	150	0.81		
	TIPSY	170	188	1.11	[170]	188	1.11		
454	VDYP	163	182	1.12	[163]	182	1.12		

	TIPSY	180	335	1.86	[180]	335	1.86		
459a	VDYP	123	370	3.01	[123]	370	3.01		
	TIPSY	80	321	4.01	[80]	321	4.01		
459b	VDYP	123	370	3.01	[123]	370	3.01		
	TIPSY	80	321	4.01	[80]	321	4.01		
459P	VDYP	123	370	3.01	[123]	370	3.01		
	TIPSY	80	321	4.01	[80]	321	4.01		
460	VDYP	98	146	1.49	[101]	151	1.49		
	TIPSY	100	382	3.82	[100]	382	3.82		
461	VDYP	114	289	2.53	[114]	289	2.53		
	TIPSY	80	278	3.48	[80]	278	3.48		
461P	VDYP	114	289	2.53	[114]	289	2.53		
	TIPSY	80	278	3.48	[80]	278	3.48		
462	VDYP	130	308	2.37	[130]	308	2.37		
	TIPSY	100	292	2.92	[100]	292	2.92		
462P	VDYP	130	308	2.37	[130]	308	2.37		
	TIPSY	100	292	2.92	[100]	292	2.92		
463	VDYP	117	269	2.30	[117]	269	2.30		
	TIPSY	90	293	3.26	[90]	293	3.26		
481	VDYP	300	170	0.57	[300]	170	0.57		
	TIPSY	290	306	1.06	[290]	306	1.06		
482	VDYP	185	270	1.46	[185]	270	1.46		
	TIPSY	190	298	1.57	[190]	298	1.57		
484a	VDYP	130	340	2.61	[130]	340	2.61		
	TIPSY	80	289	3.61	[80]	289	3.61		
484b	VDYP	130	340	2.61	[130]	340	2.61		
	TIPSY	80	289	3.61	[80]	289	3.61		
486	VDYP	164	230	1.40	[164]	230	1.40		
	TIPSY	180	351	1.95	[180]	351	1.95		
490	VDYP	213	283	1.33	[213]	283	1.33		
	TIPSY	220	284	1.29	[220]	284	1.29		
491a	VDYP	130	283	2.18	[130]	283	2.18		
	TIPSY	110	272	2.47	[110]	272	2.47		
491b	VDYP	130	283	2.18	[130]	283	2.18		
	TIPSY	110	272	2.47	[110]	272	2.47		
493a	VDYP	107	186	1.74	[107]	186	1.74		
	TIPSY	100	347	3.47	[100]	347	3.47		
493b	VDYP	107	186	1.74	[107]	186	1.74		
	TIPSY	100	347	3.47	[100]	347	3.47		
494	VDYP	103	297	2.89	[103]	297	2.89		
	TIPSY	80	341	4.26	[80]	341	4.26		
495	VDYP	125	261	2.09	[125]	261	2.09		
	TIPSY	120	375	3.13	[120]	375	3.13		
496a	VDYP	130	324	2.49	[130]	324	2.49		
	TIPSY	90	254	2.82	[90]	254	2.82		
496b	VDYP	130	324	2.49	[130]	324	2.49		
	TIPSY	90	254	2.82	[90]	254	2.82		
497	VDYP	130	293	2.25	[130]	293	2.25	[25]	[30]
	PC							[25]	[30]
516	VDYP	130	318	2.45	[130]	318	2.45		
	TIPSY	90	254	2.82	[90]	254	2.82		
520	VDYP	158	290	1.83	[158]	290	1.83		
	TIPSY	140	304	2.17	[140]	304	2.17		
522	VDYP	153	244	1.60	[153]	244	1.60		
	TIPSY	150	361	2.41	[150]	361	2.41		
524	VDYP	130	254	1.95	[130]	254	1.95		
	TIPSY	120	317	2.64	[120]	317	2.64		
526	VDYP	180	277	1.54	[180]	277	1.54		
	TIPSY	170	305	1.79	[170]	305	1.79		
528	VDYP	130	285	2.19	[130]	285	2.19	[25]	[30]
	PC							[25]	[30]
529	VDYP	160	228	1.42	[160]	228	1.42		
	TIPSY	160	337	2.11	[160]	337	2.11		
530	VDYP	92	303	3.29	[92]	303	3.29		
	TIPSY	80	430	5.38	[80]	430	5.38		
531	VDYP	176	233	1.32	[176]	233	1.32		
	TIPSY	180	326	1.81	[180]	326	1.81		
532	VDYP	130	273	2.10	[130]	273	2.10		

	TIPSY	110	272	2.47	[110]	272	2.47		
533	VDYP	188	196	1.04	[188]	196	1.04		
	TIPSY	200	348	1.74	[200]	348	1.74		
543	VDYP	106	296	2.80	[106]	296	2.80		
	TIPSY	90	393	4.37	[90]	393	4.37		
546	VDYP	100	305	3.05	[100]	305	3.05		
	TIPSY	90	393	4.37	[90]	393	4.37		
548	VDYP	164	293	1.78	[164]	293	1.78		
	TIPSY	150	300	2.00	[150]	300	2.00		
550	VDYP	113	290	2.56	[113]	290	2.56		
	TIPSY	100	373	3.73	[100]	373	3.73		
Average Existing			**277**	**2.21**		**277**	**2.21**		
Average Future			**314**	**3.09**		**314**	**3.09**		

3.0 Harvest Calculation Assumptions

a) Initial Cut Order (Unknown)

Polygon	**Current Age**	**Target Age**	**Available for (yrs)**
428	200	[130]	70
430	200	[131]	69
491a	190	[130]	60
491b	190	[130]	60
528	190	[130]	60
433	190	[131]	59
495	180	[125]	55
524	180	[130]	50
529	200	[160]	40
494	140	[103]	37
431a	140	[104]	36
431b	140	[104]	36
398	150	[97]	53
435	140	[112]	28
435P	140	[112]	28
522	180	[153]	27
461	140	[114]	26
461P	140	[114]	26
486	190	[164]	26
531	200	[176]	24
463	140	[117]	23
532	150	[130]	20
432	120	[100]	20
516	140	[130]	10
533	200	[188]	12
436	120	[95]	25
548	170	[164]	6
434a	120	[115]	5
434b	120	[115]	5
493a	120	[107]	13
493b	120	[107]	13
520	160	[158]	2
526	180	[180]	0
462	129	[130]	-1
462P	129	[130]	-1
459a	120	[123]	-3
459b	120	[123]	-3
459P	120	[123]	-3
496a	120	[130]	-10
496b	120	[130]	-10
452	110	[124]	-14
550	90	[113]	-23
429	99	[125]	-26
497	100	[130]	-30

490	180	[213]	-33
454	140	[163]	-23
546	60	[100]	-40
482	140	[185]	-45
543	60	[106]	-46
530	30	[92]	-62
484a	60	[130]	-70
484b	60	[130]	-70
460	120	[101]	19
399	232	[183]	49
453	140	[186]	-46
481	140	[300]	-160

b) Harvest Constraints

Area Netdown : NONE
Height Constraint : NONE
Age Constraint : NONE

c) Harvest Parameters (Global)

Minimum Harvest Age : 40 Years
Minimum Harvest Diameter : 20 cm
Minimum Harvest Vol/ha : 150 m^3/ha
TIPSY OAF1 : 15%
TIPSY OAF2 : 5%
P.C. Adjustment Factor : 0.80
P.C. Harvest Ages : Manual - Set by user
Planning Horizon : 250 years

4.0 Harvest Calculation Results

a) Harvest Rate : 1591 m^3/year

b) Harvest by Polygon: **

Polygon	Own	Queue	Rot	Harvest Area (ha)	Start Year	Harvest Length (yr)	Target Harvest Age	Actual Harvest Age	Actual Harvest (m^3/ha)	Total Harvest (m^3)
428	C	PC1	1	5.20	2002	0.53	[130]	200	363	841
430	C	PC1	1	10.80	2002	0.85	[131]	200	277	1,352
491a	C	CC	1	16.00	2003	3.36	[130]	191	334	5,348
491b	C	CC	1	17.00	2006	3.58	[130]	194	335	5,698
528	C	PC1	1	16.30	2010	1.29	[130]	198	342	2,050
433	C	CC	1	4.60	2011	1.16	[131]	199	401	1,849
495	C	CC	1	5.70	2012	1.26	[125]	190	350	1,998
524	C	CC	1	6.80	2014	1.31	[130]	192	307	2,086
529	C	CC	1	9.20	2015	1.66	[160]	213	287	2,641
494	C	CC	1	10.90	2016	2.72	[103]	154	396	4,332
431a	C	CC	1	16.10	2019	3.89	[104]	157	384	6,198
431b	C	CC	1	16.10	2023	3.92	[104]	161	386	6,236
398	C	CC	1	0.30	2027	0.06	[97]	175	326	98
435	C	CC	1	13.20	2027	3.14	[112]	165	377	4,998
435P	P	CC	1	0.70	2030	0.17	[112]	168	380	266
522	C	CC	1	1.30	2030	0.25	[153]	208	308	401
461	C	CC	1	5.70	2031	1.32	[114]	169	370	2,108
428	C	Sub PC	2	5.20	2032	0.18	[130]	131	269	282
430	C	Sub PC	2	10.80	2032	0.28	[131]	133	203	447
461P	P	CC	1	5.70	2032	1.33	[114]	170	370	2,112
486	C	CC	1	2.30	2034	0.42	[164]	222	293	675

531	C	CC	1	10.10	2034	1.86	[176]	232	292	2,960
463	C	CC	1	13.60	2036	2.89	[117]	174	337	4,594
532	C	CC	1	5.40	2039	1.10	[130]	187	324	1,749
528	C	Sub PC	2	16.30	2040	0.61	[130]	132	289	968
432	C	PC1	1	14.00	2041	0.82	[100]	159	242	1,312
516	C	CC	1	1.90	2041	0.44	[130]	179	370	704
533	C	CC	1	2.00	2042	0.30	[188]	240	240	480
436	C	CC	1	4.50	2042	0.65	[95]	160	228	1,028
548	C	CC	1	16.30	2043	3.66	[164]	211	356	5,828
434a	C	CC	1	17.40	2047	3.85	[115]	165	351	6,128
434b	C	CC	1	17.40	2050	3.88	[115]	168	353	6,170
493a	C	CC	1	13.00	2054	1.98	[107]	172	242	3,155
493b	C	CC	1	13.60	2056	2.08	[107]	174	243	3,310
520	C	CC	1	21.60	2058	4.92	[158]	216	360	7,822
428	C	Sub PC	3	5.20	2063	0.18	[130]	132	271	290
430	C	Sub PC	3	10.80	2063	0.29	[131]	134	204	455
526	C	CC	1	7.80	2064	1.74	[180]	242	354	2,762
462	C	CC	1	5.30	2065	1.20	[130]	192	361	1.917
462P	P	CC	1	2.20	2067	0.50	[130]	194	362	796
459a	C	CC	1	18.90	2067	5.26	[123]	185	444	8,366
432	C	Sub PC	2	14.00	2072	0.44	[100]	111	212	702
528	C	Sub PC	3	16.30	2073	0.65	[130]	135	295	1,041
459b	C	CC	1	18.80	2074	5.23	[123]	192	442	8,317
459P	P	CC	1	11.10	2079	3.09	[123]	197	443	4,921
496a	C	CC	1	14.10	2082	3.32	[130]	200	375	5,291
496b	C	CC	1	14.20	2085	3.35	[130]	203	376	5,339
452	C	CC	1	5.70	2089	1.06	[124]	197	296	1,689
550	C	CC	1	4.30	2090	1.10	[113]	178	408	1,756
429	C	CC	1	12.00	2091	2.61	[125]	188	346	4,156
428	C	Sub PC	4	5.20	2093	0.18	[130]	131	269	282
430	C	Sub PC	4	10.80	2093	0.28	[131]	133	203	442
497	C	PC1	1	7.20	2094	0.70	[130]	192	377	1,121
490	C	CC	1	12.00	2094	2.59	[213]	272	342	4,121
454	C	CC	1	5.90	2097	0.91	[163]	235	245	1,446
546	C	CC	1	6.40	2098	1.71	[100]	156	424	2,717
482	C	CC	1	5.90	2100	1.25	[185]	238	337	1,992
543	C	CC	1	6.20	2101	1.54	[106]	159	395	2,454
432	C	Sub PC	3	14.00	2102	0.43	[100]	110	211	687
528	C	Sub PC	4	16.30	2103	0.61	[130]	132	289	970
530	C	CC	1	5.50	2103	1.37	[92]	131	393	2,174
484a	C	CC	1	13.00	2105	3.17	[130]	163	387	5,044
484b	C	CC	1	12.50	2108	3.06	[130]	166	389	4,873
460	C	CC	1	16.20	2111	2.05	[101]	229	201	3,262
399	C	CC	1	0.80	2113	0.10	[183]	343	195	156
453	C	CC	1	0.50	2113	0.05	[186]	251	166	83
494	C	CC	2	10.90	2113	2.71	[80]	95	391	4,312
491a	C	CC	2	16.00	2116	2.80	[110]	112	276	4,460
491b	C	CC	2	17.00	2119	2.95	[110]	111	274	4,701
431a	C	CC	2	16.10	2122	3.98	[80]	101	390	6,339
497	C	Sub PC	2	7.20	2126	0.30	[130]	135	303	469
428	C	Sub PC	5	5.20	2126	0.19	[130]	134	275	306
430	C	Sub PC	5	10.80	2126	0.30	[131]	136	207	484
431b	C	CC	2	16.10	2127	4.00	[80]	102	392	6,366
398	C	CC	2	0.30	2131	0.05	[100]	104	277	83
435	C	CC	2	13.20	2131	3.11	[100]	103	371	4,948
528	C	Sub PC	5	16.30	2134	0.63	[130]	133	291	995
432	C	Sub PC	4	14.00	2134	0.45	[100]	112	213	718
433	C	CC	2	4.60	2135	0.91	[120]	123	315	1,449
495	C	CC	2	5.70	2136	1.37	[120]	123	382	2,180
524	C	CC	2	6.80	2137	1.39	[120]	123	324	2,211
435P	P	CC	2	0.70	2138	0.17	[100]	108	387	272
461	C	CC	2	5.70	2139	1.26	[80]	107	351	2,007
461P	P	CC	2	5.70	2140	1.26	[80]	107	351	2,009
463	C	CC	2	13.60	2141	2.86	[90]	103	331	4,555
516	C	CC	2	1.90	2144	0.34	[90]	102	283	538
436	C	CC	2	4.50	2144	1.24	[90]	102	437	1,978
434a	C	CC	2	17.40	2146	4.62	[90]	98	416	7,345
532	C	CC	2	5.40	2150	0.93	[110]	110	272	1,476

434b	C	CC	2	17.40	2151	4.66	[90]	99	420	7,416
497	C	Sub PC	3	7.20	2156	0.28	[130]	133	299	445
428	C	Sub PC	6	5.20	2156	0.18	[130]	131	269	282
430	C	Sub PC	6	10.80	2156	0.28	[131]	133	203	446
493a	C	CC	2	13.00	2157	2.91	[100]	102	353	4,635
493b	C	CC	2	13.60	2159	3.07	[100]	102	353	4,891
481	C	CC	1	6.10	2163	0.65	[300]	301	170	1,037
459a	C	CC	2	18.90	2163	4.34	[80]	93	359	6,904
528	C	Sub PC	6	16.30	2167	0.65	[130]	135	295	1,029
432	C	Sub PC	5	14.00	2168	0.47	[100]	114	216	747
462	C	CC	2	5.30	2169	1.00	[100]	103	300	1,592
462P	P	CC	2	2.20	2170	0.41	[100]	103	300	660
459b	C	CC	2	18.80	2170	4.34	[80]	94	362	6,912
459P	P	CC	2	11.10	2174	2.56	[80]	94	362	4,066
529	C	CC	2	9.20	2177	1.97	[160]	161	339	3,134
496a	C	CC	2	14.10	2179	2.39	[90]	95	267	3,795
522	C	CC	2	1.30	2181	0.30	[150]	151	363	472
496b	C	CC	2	14.20	2182	2.40	[90]	95	267	3,813
452	C	CC	2	5.70	2184	1.19	[80]	94	330	1,888
530	C	CC	2	5.50	2185	1.51	[80]	81	434	2,401
497	C	Sub PC	4	7.20	2187	0.29	[130]	134	301	457
428	C	Sub PC	7	5.20	2187	0.18	[130]	132	271	290
430	C	Sub PC	7	10.80	2187	0.29	[131]	134	204	460
484a	C	CC	2	13.00	2187	2.43	[80]	81	292	3,861
550	C	CC	2	4.30	2190	1.01	[100]	100	373	1,609
546	C	CC	2	6.40	2191	1.62	[90]	92	400	2,570
429	C	CC	2	12.00	2192	2.75	[100]	100	359	4,378
548	C	CC	2	16.30	2195	3.11	[150]	150	300	4,948
432	C	Sub PC	6	14.00	2198	0.43	[100]	110	211	690
528	C	Sub PC	7	16.30	2199	0.64	[130]	134	293	1,017
543	C	CC	2	6.20	2199	1.64	[90]	97	416	2,606
520	C	CC	2	21.60	2201	4.21	[140]	141	306	6,702
484b	C	CC	2	12.50	2205	2.65	[80]	95	333	4,210
494	C	CC	3	10.90	2208	2.68	[80]	94	388	4,269
431a	C	CC	3	16.10	2211	3.58	[80]	87	349	5,701
486	C	CC	2	2.30	2214	0.51	[180]	180	351	808
531	C	CC	2	10.10	2215	2.08	[180]	180	326	3,304
497	C	Sub PC	5	7.20	2217	0.28	[130]	133	299	445
428	C	Sub PC	8	5.20	2217	0.18	[130]	131	269	282
430	C	Sub PC	8	10.80	2217	0.28	[131]	133	203	447
460	C	CC	2	16.20	2218	4.13	[100]	106	401	6,569
431b	C	CC	3	16.10	2222	3.77	[80]	93	368	5,999
461	C	CC	3	5.70	2225	1.06	[80]	85	294	1,689
461P	P	CC	3	5.70	2226	1.07	[80]	86	297	1,708
432	C	Sub PC	7	14.00	2228	0.44	[100]	110	211	700
491a	C	CC	3	16.00	2228	2.76	[110]	110	272	4,395
528	C	Sub PC	8	16.30	2231	0.64	[130]	134	293	1,017
491b	C	CC	3	17.00	2231	2.97	[110]	111	274	4,721
526	C	CC	2	7.80	2234	1.50	[170]	170	305	2,394
398	C	CC	3	0.30	2236	0.05	[100]	105	280	84
435	C	CC	3	13.20	2236	3.14	[100]	104	374	5,002
435P	P	CC	3	0.70	2239	0.16	[100]	101	365	256
463	C	CC	3	13.60	2239	2.73	[90]	97	315	4,346
533	C	CC	2	2.00	2242	0.44	[200]	200	348	696
516	C	CC	3	1.90	2242	0.33	[90]	98	274	524
436	C	CC	3	4.50	2243	1.21	[90]	98	425	1,919
434a	C	CC	3	17.40	2244	4.56	[90]	96	410	7,254
497	C	Sub PC	6	7.20	2248	0.28	[130]	134	301	452
428	C	Sub PC	9	5.20	2249	0.19	[130]	133	273	298
430	C	Sub PC	9	10.80	2249	0.30	[131]	135	206	473
434b	C	CC	3	12.55	2249	3.25	[90]	95	407	5,179

c) Polygons not harvested

Polygon	Own	Harvest Area (ha)	Reason
Total		0.0	

d) Actual average Harvest with constraints and non harvest years over 250 year planning horizon:

Ownership	Harvest Area (ha)	Conifer (m^3)	Deciduous (m^3)	Total (m^3)	Average (m^3/yr)
Crown	507.6	361,316	20,961	382,278	1,523
Private	19.7	16,879	188	17,067	67
Top-Up	0.0	0	0	0	0
Other	0.0	0	0	0	0
Total	**527.3**	**378,196**	**21,149**	**399,345**	**1,591**
Average		**1,506**	**84**	**1,591**	

Hanzlik Rate : 1,123 m^3/year

** Net of decay, waste, breakage, VAF and OAFs

e) Age Constraints Not Met During the following Period(s)

Age constraints are disabled

f) Height Constraints Not Met During the following Period(s)

Height constraints are disabled

5.0 Conclusions

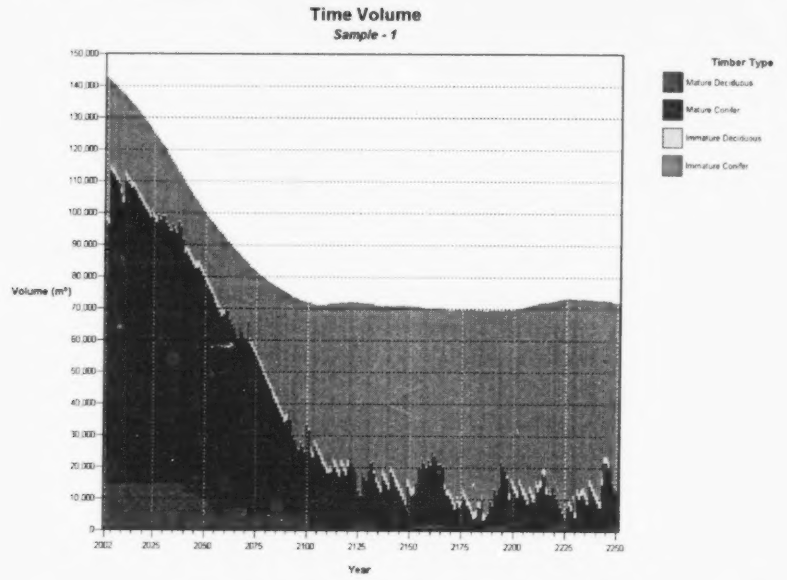
Enter your conclusions to the user of this section on your observations about the upward or downward bias of the assumptions used to calculate the results. Open this report.txt file in the 'Note Pad' program or into Word for Windows to edit.

6.0 Report Abbreviations

Term	Definition
%	Species Composition Percent
[]	Default Variable
(s/ha)	Stems/ha
Available for	Number of years the polygon has been ready to harvest
C Age	Culmination Age
C Vol	Volume at Culmination Age
CC	Clearcut
CT	Commercial Thin
Cul	Culmination
Dens	Initial Density (stems/ha)
FIZ	Forest Inventory Zone
Harvest Area (ha)	Area reduced by the area netdown.
MAI	Mean Annual Increment (m^3/ha/yr)
Mgmt Type	Management Type (VDYP / TIPSY / NC / NSR)
NC	Non Commercial
NSR	Non Satisfactory Regeneration

PC	Partial Cut
PC%	Partial Cut percent to harvest
PC1	First Partial Cut
PSYU	Public Sustained Yield Unit
Queue	Reason for harvest (CC, PC1, Sub PC, CT, Road, NSR, NC)
Reentry	Number of years to wait before reentering a partial cut
Regen	Regeneration Type (Natural / Planted)
Road	Road net down
S1-S6	Species Codes 1 to 6
SI	Site Index
Silv Sys	Silviculture System (CC, PC)
Stk Cls	Stocking Class (0 to 4 or R)
Sub PC	Subsequent Partial Cut
T Age	Target Age
T Vol	Volume at Target Age
Target Age	Target harvest age. The actual harvest age will depend on the time the simulation harvests the polygon. See section 4(b) for actual harvest ages.
Thin	Pre-commercial thin to density (stems/ha)
TIPSY	Table Interpolation Program for Stand Yields
VAF	Volume Adjustment Factor
VDYP	Variable Density Yield Projection

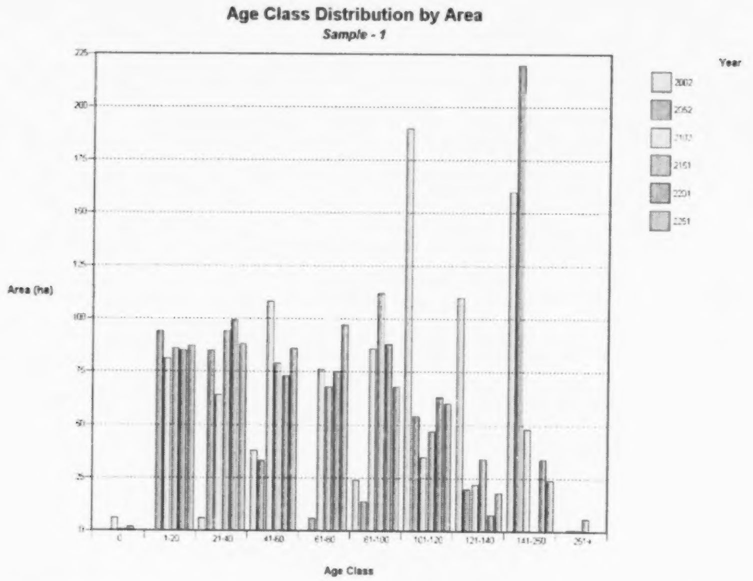
WL Sample Timber Supply Over Time



C:\Program Files\Woodlot3 1\sample LOT

March 21, 2002 - 2:45 pm
EnGraph Lite 1.271 by Enfor Consultants Ltd

WL Sample Age Class Distribution Over Time



C:\Program Files\Woodlot3 1\sample LOT

March 21, 2002 - 2:46 pm
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Appendix 11 - WOODLOT Program Revisions

Version 2.10 to 3.0

WOODLOT version 3.0 was released in January 2001 as a major upgrade over version 2.1 to bring in new yield data, upgrade usability features, fix several small bugs, and to add several features requested by users. These include:

1. Operating System

- WOODLOT will only run now on Windows 95+ operating systems, and will not run on Windows 3.1.

2. Main Screen

- Added link to woodlot website and email to woodlot@enfor.com.
- Removed the Tables feature.
- Opening a LOT File.
  - Check file exists before loading.
  - Check file version information and provide a warning about the need to update yields.

3. Project Screen

- No changes.

4. Polygon Data Screen

Menu Bar

- Addition of Woodlot menu, which replaces the previous View feature and includes new utilities for polygon data management.

Data Entry General

- Restructured data entry screens.
- Separate utilization for VDYP and TIPSY, each with expanded utilization levels.

Import CSV

- Ignore blank rows in CSV.
- Ignore blank columns in CSV.
- remove case sensitive on species codes.
- update species codes work correctly on import (was displaying correctly but not always working with some species in VDYP and TIPSY).
- use only first letter of ownership.
- Import either “P” or “1” for planted and “N” or “0” for natural.

Polygon Data – Common

- Polygons can now be entered as single polygons, no longer requiring a separate mapsheet and polygon number.
- Road Netdown feature added, which allows the user to recover volume for the area indicated, but the road area is deleted from the polygon out after the first harvest.
- Rearrangement of some data fields to other areas on Polygon Data screen.

Yield Types

- New Non-Commercial Yield Type added

- New NSR Yield Type added
- View Future and Existing buttons disable when * is next to polygon
- New coloration of yield type screens
- Updated View Future/Existing to accept changes above

VDYP Features

- New version of VDYP 6.6d4, to October, 1999.
- Updated species list.
- Separate utilization for VDYP and TIPSY.
- SI and CC calculated by VDYP will be displayed on the Polygon data screen in square brackets.
- Set SI and CC to [TBA] if not yet calculated.
- Alternate waste and breakage factors added for use in all parts of BC.
- VDYP Calculation.
  - Fix error in VDYP formatting.
  - Set species with 0% composition to blank.
  - Set Yield curves to blank before importing new ones.
  - Check file imported from VDYP to make sure it is complete.

TIPSY Features

- New version of BTIPSY 3.0a, to July, 2000.
- Added Commercial Thin features.
- Added Fertilization features.
- Added Genetic Worth features.
- Separate utilization for VDYP and TIPSY.
- Updated species list.
- Add Surrogate Species list for TIPSY and Species Codes.
- Wider selection of utilization levels included.
- TIPSY Calculation.
  - Check file imported from TIPSY to make sure it is complete.
  - Change range to 0 to 350 not 10 – 350.
  - Set Yield curves to blank before importing new ones.
  - Export correct OAF if set to default.

Harvest Parameters

- If harvest parameters will never be met then the harvest age is set to 999 so the polygon will never be harvested.

Calculate Yields

- Ignore deleted polygons.
- Check that Crown Closure is greater than 10%.
- Check that average Crown Closure over the Woodlot is greater than 10%.
- Check average VAF is greater then 50%.
- Bold number of polygons to recalculate.
- Enlarge error and warning boxes.

Yields

- Added tabs to the Calculate Yields screen to display errors easier.

Other Items

- '*' is shown next to polygons that need yield information updated (previously in version 2.00 but sometimes caused a Runtime Error 5).
- Return user to last polygon worked on when entering polygon data screen.
- Export CSV: add VSiteIndex and VcalcSI.
- Print Screen feature added.

Help Screen.

- Addition of Help menu, with links to VDYP and TIPSY help files.
- New help screen button was added (shown as "?"); Adjustable font size; Help message length increased.
- Help messages have been updated.
- Added link to woodlot website and email to woodlot@enfor.com.

5. **Summary Screen**
   - Updated to utilize new tabulated presentation.
   - Will permit expansion in the future to add more variables.

6. **Calculations Screen**
   - More user-friendly features, such as the use of colours on harvest schedule screen, displaying when polygons are cut, new tabulated presentation of harvest results with expandable screen for polygon, annual and advanced items.
   - Full update of calculation process to allow for commercial thinning from TIPSY.
   - Update the partial cut methodology to ensure that correct yield curves are being used.
   - Allows users to change harvest parameters on this screen.
   - Constraints may be used together or separately.
   - Partial cut can be disabled to check implications.
   - "Utilize conifer only" option added to assess the contribution of deciduous to the AAC.
   - Major update to include more variables in harvest schedule screen.
   - Optimized harvest calculation to place harvest priority on the polygons closest to harvest age in the second and subsequent rotations (as opposed to in the same order as they were harvested in the first rotation) to provide a more optimal and realistic subsequent sort.
   - Increased the menu items.
   - Max Iterations of 100.
   - Turn off harvest parameter checks on partial cut stands.
   - Print Screen feature added.

7. **Report Writer Screen**
   - More user-friendly features.
   - Report is automatically generated for the user when the Report screen is activated.
   - Remove deleted polygons from report.
   - Correct reporting of VDYP and TIPSY data.
   - Change wording of height constraint.
   - Report shows calculated VDYP CC.
   - Rich text formatted sections.
   - Several new sections added and expanded.

8. **Settings**
   - More user-friendly features.
   - Full update for all screens.
   - Separate VDYP, TIPSY, Interface and Applications screen.

9. **User Manual**
   - Full update to the WOODLOT User Manual to reflect revisions.

Version 3.0 to 3.1

BETA

- Fix first harvest age was being used for two rotations

3.000-3.005

- Start VDYP and TIPSY as a process instead of a shell
- Save RTF Report to Disk and then display on screen
- Add include all species
- Fix reorder species to also reorder the included checkbox
- Add PSYU name
- Remove Region and Compartment Information from CSV export
- Add print screen functions to all pages
- Make help screen resizable
- Add columns to Harvest Schedule for Standing Conifer vs Deciduous
- Fix spelling mistakes in report and on screen
- Add issues column to both harvest schedule reports
- Fix calculation of average volume for selected polygons
- Fix partial cut

3.005-3.006

- Bring calc yield errors to front, was hidden behind polygon data screen
- Remove Mapsheet-Polygon# and replace with Polygon Name

3.006-3.007 (MOF VERSION)

- Fix program from crashing after importing from TIPSY
- Fix work file location, which was not saving correctly
- Remove some machine specific settings from lot file

3.007-3.008

- Calculate yield screen; the pre calculation check wasn't updating if the user made changes to polygons while the screen is open.
- Add function to automatically register .lot files with Woodlot
- Remove purged polygons from sort order and remove graph and report. Polygons that had been purged still remained in the default harvest order. This was causing the program to crash.
- Fix labels for mature / immature on settings screen

3.008-3.009 (Feb 22, 2001)

- NAME field added to the import CSV function. Woodlot now combines the polygon and mapsheet fields to a single field called name. When exporting CSV files, Woodlot now outputs this single field, the import CSV function had to be modified to accept either the mapsheet polygon fields or the name field.
- CSV import shows an error message for all fields that are in the CSV file the Woodlot doesn't recognize. The VSICalc (VDYP Calculated Site Index) field is exported by Woodlot and so the error message was confusing users when they re-imported files exported from Woodlot.
- In the Report, harvest ages for NSR and NC polygons (in section 3a) were causing a subscript out of bounds message.

3.009-3.010 (March 15, 2001) On Enfor Website

- The "conifer only" check box on the calculation screen was not remembering its previous setting.

3.010-3.011 (March 26, 2001)

- Stop purge polygon from crashing program if calc screen hadn't been run

3.011-3.012 (March 31, 2001) (BETA AREA BASED for Vera)

- New sort methods for (SI / MAI / Species / Youngest First)
- Check mark to record sort index on menu
- New Reporting feature that exports all polygons for amount of years user specifies with some averages and totals
- New Graphing feature
- Update Graphs for: Time Volume and Age Class (5 time periods)
- New Graphs for: Volume Harvested / Area Harvested / Average Vol./ha / Age Class Distribution (annual) / Harvest Vol. by Species

3.012-3.013

- Recompile for MOF (Vera) no changes (didn't work first time)

3.013-3.014

- Fix 100% deciduous; roads were making program crash

3.014-3.015

- Fix Harvest Volume by Species Graph (TIPSY species were overwriting VDYP IDs when creating index)

3.015-3.016

- CSV import will not ignore quoted identifiers i.e. "MAPSHEET" it used to only support MAPSHEET

3.017

- Adjust expiry date

3.018

- Added July 18, 2001 to fix problem with large harvest length on area based cuts. Length was equal to vol./aac but aac is in ha (in area based mode) so add alternate section for area based so length = area / aac

3.019

- Increase spaces after values in calc harvest order screen to fix formatting problem
- Add option for area based harvest report so low volume cuts are based on area not volume

3.020

- OAF 1 and 2 not exporting because tipsyoaf set to 0 in the settings. This check box was removed but some lot files still had the option set to off. All functions that used the tipsyoaf setting have now been updated to ignore it.

3.021

- Extend expiry to Oct 1, 2001
- Add ha/m³ to report in section 4 and summary
- Make AAC amount and Area Based flag change when the calculation button is pressed (not when screen closes)

3.022 (November 2001)

- Change expire date to March 31, 2002

3023 (November 2001)

- Add update all genetic worth on the polygon data screen.

3024 (November 2001)

- Fix bug that caused different rates for Auto Harvest vs. Harvest because of error checking age 999

3025

- Fix bug on showing polygons with error
- Fix Save to do Save As if filename not set

3100 (January 2002)

- Fix bug for harvest age of 0
- Remove expiry date
- Change to release version
- Fix harvest report to show blank block for nothing harvested
- Add percent harvested
- Add new feature to auto split polygons
- Harvesting Issues (display amount of Annual vs. Polygon)
- Save selected on summary screen between operations
- Tab order on Silvi System
- Automatically select text in textboxes on Silvi System
- Add percent harvested to report
- Change header to "cul" (culmination) from "cur" in section 2e of the report
- Add more items to Glossary for section 2e
- Hide regen delay on polygon data screen when current poly is set to pc
- **Fix years to harvest (was waiting one more than specified) ****
- **Change PC cut down to from reentry years to percent harvest ****
- **PC Cut down age will adjust if entry is longer than 1 year.****
- **Remove regen delay on partial harvest polygons ****

WOODLOT User Manual 3.0 to 3.1

- Updates throughout the manual to reflect changes from version 3.0 to version 3.1

**** These last four changes may affect the AAC.**

Appendix 12 - Frequently Asked Questions and Answers

The following summarizes frequently asked questions and answers regarding the use of WOODLOT for Windows. WOODLOT is a timber supply model for use on Woodlot Licences in BC. It was developed for the BC Ministry of Forests (funding support provided by Forest Renewal BC) by Enfor Consultants Ltd.

Questions and answers have been arranged into sections:

1. **Data Entry**
2. **Management Assumptions**
3. **Yield Information**
4. **Harvest Calculations**
5. **Reporting**
6. **Program Requirements**
7. **General Items**

As of January 2001, the Ministry of Forests was supporting version 3.0 (note that version 1.0 was introduced in June 1996). Users with older versions of WOODLOT are encouraged to update their systems to version 3.0 to ensure that you are working with the most recent information.

For further information on the use of WOODLOT, contact:

- Ministry of Forests, Resource Tenures and Engineering Branch 250 387-8317
- Federation of BC Woodlot Associations 250 398-7646, or **www.woodlot.bc.ca**
- Enfor Consultants Ltd. at 604 984-0832, or email to **woodlot@enfor.com**
- Also refer to the website **www.enfor.com** for latest versions of WOODLOT and manuals.

Questions	Answers
1.0 Data Entry	
1.1 Where can I find a list of variables used in WOODLOT?	A list of WOODLOT variables can be found in: • the Reference Manual Appendix 9, • the CSV.TXT file located in the WOODLOT directory or sample sample.csv, or by • exporting a CSV from the Polygon Data Screen. This will create a CSV file that contains all the header information.
1.2 Can I set up an input file using Excel?	Yes. Set up your Excel file to use the same column headings as the variable names described in Appendix 9, then save the file as a CSV file format. This may be loaded directly in using the Polygon Data screen menu. The column headers must contain the variable names as described in Appendix 9 of the manual. A minimum of three columns of data must be used; the mapsheet, the polygon, and one other. The mapsheet and polygon number must not be duplicated.
1.3 Can I do other calculations in the Excel data list?	Yes. WOODLOT will only read in those columns with the variable names specified. Remember to save your Excel file as well as the CSV file if you use cells with formulas. The CSV file only contains the information shown in the cell, NOT the formula.
1.4 Do species have to be in order?	Yes. You should always enter the leading species first, followed in descending order by other species. This will affect the way that yield curves are derived. This is particularly important in TIPSY, as the Site Index is attached to the leading species (unless you turn others on in the Settings screen). Do not enter a blank or zero for species %. If you don't know, then don't enter a species.
1.5 What is the ideal size of polygon to analyze?	We usually suggest splitting polygons downs to about 10-15 ha to ensure that they are all harvested in a reasonable sequence. You should arrange your polygons to match an operational development plan over time. Woodlot works best when polygon sizes are less than about 10% of the total area, especially when using partial cuts. This will allow a smoother harvest forecast by allowing more polygons to be available for harvest, which will tend to ensure that polygons get harvested closer to the target age. An optimum Woodlot would have 30 to 60 polygons that are 2 to 15ha in size.

Questions	Answers
1.6 Can we use FIP data directly?	No, but Enfor has developed a FIP to CSV program that can be purchased separately. A FIP file can be expanded into a comma delimited file. The headings must then be updated to match WOODLOT (see Appendix 9). A Guide will be available from Enfor, this will instruct your inventory specialist which FIP data is required/preferred for use in WOODLOT.
1.7 When should I change the Volume Adjustment Factor (VAF)?	If you have cruise information for the woodlot, it may be more accurate than the forest cover map data and projected yields, which were derived to be accurate at the Timber Supply Area level. The VDYP yields can be modified to match the cruise information using the VAF. Caution is recommended, as doing this will scale up (or down) the entire yield curve, and will assume that the stand will develop at approximately the adjusted rate. Refer to the next question regarding amounts to use. A VAF of 0.9 equates to you having 90% of the volume on site as compared to VDYP yield projections.
1.8 How much should the VAF be changed by?	The Volume Adjustment Factor (VAF) has been provided to adjust the yields on a polygon for those instances where the site yield may significantly deviate from average cruise volumes over a polygon. Care should be taken to use a VAF that is reasonable and supportable. If you know the age and the current volume of the stand; you can calculate a VAF: 1. Generate the VDYP yield curve with your polygon data. 2. Display the yield table (View Existing) then lookup the current age and record the volume/ha at this age. 3. Compare this volume to the cruised volume at the current age. 4. The VAF = net cruise volume / polygon yield volume. For example, if the cruise is 550m^3 and the volume generated by VDYP is 500m^3 then a VAF = 550/500 = 1.1 can be used. NOTE the VAF is not going to be the same for all polygons. Cruise data, scale returns and model calculations are all done to certain levels of accuracy, and may never provide a direct comparison in all cases.
1.9 Can I use a VAF in TIPSY?	No. The only way to adjust TIPSY yields is to use the OAF's. You should not change the OAF's from the defaults unless you have good field information to verify this.

Questions	Answers
1.10 Why does the harvest age next to "Yield Type" in the Polygon Data screen sometimes indicates an age lower than the current age?	The harvest age next to "Yield Type" is the minimum harvest age that the polygon can be harvested. This is the lowest age where all harvest parameters have been reached. It will be defaulted to the culmination age if minimum ages are older than the culmination age. You may reset the harvest age manually.
1.11 How can I exclude a polygon from a calculation temporarily while I assess the implications of including it?	There are three ways. Exclude it from the Polygon Data screen, exclude it from the [Calculations] screen, or set a very high harvest age, say 999 yrs. It will contribute to overall ht/age constraint needs if you use the last technique.
1.12 I have a deciduous type that I want to rehabilitate to a managed conifer stand, but exclude the deciduous component from my AAC. Can I net out 100% of the species in a polygon in VDYP?	Yes, you can net out 100%. Uncheck the check boxes in VDYP beside the species you wish to net out. Update your target harvest to the year you wish to do the rehab (i.e. Target harvest = current age plus years to rehab) Alternately to keep the polygon in for height and age constraints, but not harvest it at all, set the harvest age to 999 yrs.
1.13 When I update a polygon, it didn't accept my changes when I went to recalculate the yields.	You must move your cursor to another data box to activate and save the last changes. This is a Windows requirement.
1.14 How do I reset the polygons to use default values?	Only some data boxes use defaults set by the operator, others use defaults calculated by VDYP. Refer to the appendices for a description of defaults, and questions in Section 2 below. You can reset the defaults by entering a non-numeric character in the databox. You can tell when defaults are used when the databox has a [ ] square bracket around the number.
1.15 How do I get WOODLOT to ignore the harvest parameters for a particular polygon?	Select the Polygon on the Summary screen, and then open Harvest Parameters. Click on "Ignore Harvest Parameters". WOODLOT will ignore the three Harvest Parameters and the culmination age for the selected polygons in the Summary screen.

Questions	Answers
2.0 Management Assumptions	
2.1 How should we classify land that has now been rehabilitated, but was previously left as a residual stand?	Treat rehab lands as if they are newly established stands. The stand age should be based on the average age of the newly established free growing stand. Ignore the contribution of the residuals unless you are sure they will release and become crop trees.
2.2 How do I model for a residual stand that has been severely selectively logged, but I wish to rehab to a new forest in 10 years time?	1. Select the R stocking Class and lower crown closure. 2. Run the new yield curve 3. Do not net out 100% of the stand by spp. 4. Reset harvest age to 10 years older than current age 5. Enter your new forest data into TIPSY 6. In [Calculations] , select this polygon as one of your first polygons to be harvested.
2.3 Does WOODLOT model for spp replacements when pioneering spp are replaced over time with later success ional spp? E.g. DrFd on the coast; AtSw in the Interior?	Yield modeling in WOODLOT is based on VDYP and TIPSY. Neither of these models address stand dynamics for conversions particularly well, and this is a modeling limitation. Consider whether the total volume would change over time beyond the projected yield curve and comment on this aspect in the AAC rationale as an upward or downward pressure.
2.4 How do I split the cut by deciduous and coniferous species?	There are two methods. Note that TIPSY does not model for deciduous species. VDYP now has the feature to include the volume of desired species. In the Polygon Data Screen, check on only the species in VDYP that you wish included in the analysis. Species with a check box left blank will not be accounted for in the harvest rate. *This requires the user to also convert the stand from VDYP to TIPSY*, and therefore, partial cuts cannot be used on this polygon. A second less accurate method is to apply a VAF in VDYP, as a rough estimate of the contribution by the % by species you wish to retain. This should be verified using VDYP. For example if you have 30% deciduous that will not be harvested, set the VAF to 0.7 to approximate the volume removal. If the deciduous contributes to the AAC, then there will be no netouts, and the VAF will be 1.0.
2.5 How do I treat a polygon in which I want to partial cut a portion and clearcut the remainder?	Split the polygon into two sub polygons with the same forest information and relevant areas. Treat one as a partial cut, and the remainder as a clearcut polygon.

Questions	Answers
2.6 What are harvest parameters, and how do I change them?	Harvest parameters establish the criteria for which a polygon can be harvested, in terms of minimum diameter (dbh), volume/ha (volume) and a minimum set age. The latest point in time will govern the earliest possible harvest age that a polygon could be harvested. The target harvest age you set in the Polygon Data screen will likely be older than the minimum harvest parameter. Minimum harvest parameters may be accessed in four different areas in WOODLOT: 1. Woodlot wide default harvest parameters can be found under the View menu pick in Polygon Data, and under the Harvest Parameters button in the Summary screen 2. Polygon specific harvest parameters can be found in the Yield Table and Harvest Parameters screen (View Existing or View Future in Polygon Data). Harvest parameters can be selected for both the first harvest age and also for the subsequent harvest age. Blank square brackets [ ] can be entered to allow defaults to be used. The defaults are as follows: • Min DBH, Volume/ha, Age – as set in the harvest parameters screen • Harvest Age – The minimum age when all harvest parameters have been met. Will become 999 if a parameter is never met and therefore will never be harvested.
2.7 What effect does Regen delay have, and how do I change it?	A regen delay will delay the growth of a new stand, and might result in future losses in AAC. Regen delay is entered in the Polygon Data Screen. If you enter empty square brackets [ ] in the regen delay data box, the default regen delay will be used. This will allow the user to adjust the regen delay for all polygons at once by changing the default regen delay in the Woodlot Default Harvest Parameters screen, found in the Polygon Data menu
2.8 When would I want to change the harvest ages, and for what reasons?	You might want to change harvest ages to allow for an economic rotation, to fill age class imbalances, or for other reasons. Check the yield table to see if the stand will have a sufficient volume/ha or piece size at the changed ages. By default, harvest ages are based on the culmination age and meeting all minimum harvest parameters. You should check that these ages are appropriate for the stand by viewing the yield curve information under the View Existing or Future Yields buttons in Polygon Data.

Questions	Answers
2.9 How do you determine your management assumptions, such as the regen delay to use and the type of management (planting, spacing) you expect?	This is a judgment call, which should be based on the actual operating procedures of the licensee, realistic expectations and/or legally enforceable commitments. Consider setting the assumptions conservatively for an adequate performer (natural, long regen delay), and more optimistically for an excellent performer (plant, short regen delay). Model the AAC after the expected harvest pattern, such as in the approved FDP.
2.10 What does the Partial Cut Adjustment Factor (PCAF) do?	The PCAF was introduced as part of the partial cut modeling methodology. WOODLOT assumes that a partially cut stand regrows relative to the growth of the fully stocked stand with the now-lesser volume at an equivalent younger age. Since a partially cut stand will generally produce more or less incremental recoverable volume between multiple re-entry periods than an equivalent fully stocked, even-aged stand predicted by VDYP, the PCAF was introduced to scale that volume down (or up), to account for delays in stocking and site occupancy. Volume recovery in a partially cut stand should, to some extent, regrow over a fewer number of remaining trees, and eventually the new trees will replace the previous trees. The PCAF is used as follows: • PCAF<1.0 indicates less incremental volume will be recovered by the next entry than an equivalent fully stocked younger stand starting with the same volume as that remaining on the partially cut stand. • PCAF>1.0 indicates more incremental volume will be recovered than would be possible from an equivalent fully stocked stand. The default PCAF is 0.8, but the PCAF will vary by stand, and management regime. If you are in the Nelson or Kamloops regions, you may be able to use results from PROGNOSIS BC to verify your PCAF. PROGNOSIS BC is an individual tree growth and yield model that simulates the development of multi species and multi layered stands, and the response of these stands to partial cutting. Its geographic application is limited to the ecosystems of the Nelson and Kamloops area.

3.0 Yield Information

3.1 The actual volume I am receiving by polygon site is different than what VDYP predicts. How can I adjust this?	Use the Volume Adjustment Factor (VAF) to scale your volume up or down by polygon. The VAF is only for use in VDYP and does not affect the TIPSY curve.

Questions		Answers
3.2	When should I use TIPSY and when should I use VDYP?	Use TIPSY for new even aged forests that are managed to a free growing state. Most stands established since 1987 can use TIPSY, as well as those that have received a significant amount of management treatments to equate them to a fully managed stand. VDYP must be used for the "existing yield type" if it is an unmanaged or natural stand. If you plan to manage a deciduous or a partial cut stand, then you must use VDYP for the first and subsequent cuts. Refer also to Appendix 6, and the TIPSY and VDYP user manuals.
3.3	Can I use TIPSY for an older stand that is still 20-50 yrs from harvest?	Only use TIPSY for newer stands that have been managed to a free growing state, or those stands that have received a significant amount of management treatments to equate them to a fully managed stand. These stands have the added benefits of full stocking, early establishment and improved stock. Older unmanaged stands should use VDYP yields.
3.4	Can we calculate Partial Cuts using TIPSY yields?	No. Because of the PC methodology, we use VDYP, primarily because a partially cut stand is assumed to grow like a naturally in-filling stand.
3.5	What should I use for the Density in TIPSY?	Use the initial establishment density. Refer to history records, or make your best estimate. Note that TIPSY will reduce the density in the first few decades to simulate die back and overtopping.
3.6	What yield tables should I use for stands with a deciduous component?	Use VDYP for stands with deciduous species. The VAF may be applied to increase yields if you plan to manage by spacing or other means.
3.7	What are surrogate species in TIPSY?	TIPSY supports 7 species (Fdc, Fdi, Hw, Cw, Pl, Ss, and Sx) TIPSY uses yield tables from these to apply as surrogates to other species with similar characteristics. When using TIPSY, select the species you wish to use, and WOODLOT will automatically choose the correct surrogate for you. Species that use surrogates are denoted by an asterix (*) and show the surrogate species code in brackets.
3.8	Why would you adjust the OAF1 or OAF2?	OAF1 and OAF2 are set to Research Branch default parameters, which are based on broad representative average managed stands. Do not change OAF1 or OAF2 unless you can substantiate this. Refer to information on TIPSY from the website www.for.gov.bc.ca/research/gymodels, or included with this manual.
3.9	Does Crown Closure (CC) keep increasing over time?	No. VDYP measures a yield for a given point in time. If your stand is less than 50 years you will need to predict yields using a projected CC for the mature stand. You can do this by using VDYP default CCs (refer to the appendices), or have VDYP provide the default CC for you by entering a SI (tot) Age. Note that TIPSY does not use CC.

Questions	Answers
3.10 I have a young open grown stand with a low CC. What CC should I use?	See the above question. Use the CC that you can expect at harvest, or the default CC from VDYP.
3.11 Can I enter the Crown Closure Class?	No. Use the CC %. WOODLOT should warn you if you have too low of a CC%.
3.12 What is the accuracy of FIP data?	FIP data is based on a TSA level of accuracy. Therefore, errors over a large piece of land will even out. When TSA level inventory data is brought down to a woodlot level, the accuracy of the data could be out by as much as 35%. Therefore, you should do at least a few check plots to measure actual volumes on your woodlot, and compare to VDYP or TIPSY.
4.0 Harvest Calculations	
4.1 Can you split the Woodlot Licence into private and Crown areas for separate contribution calculations?	Yes. A woodlot can be split into separate areas by specifying a different ownership for each particular polygon area in the Polygon Data screen. In the calculation screen you can then choose which ownership to calculate an AAC for. The report will split out the individual contribution by ownership. Running an AAC on the Crown and Private data separately will not give the same AAC as running Crown and Private together. This is because of effects of aggregation, and having fewer polygons to harvest, thus limiting the available area, and forcing the cut over fewer polygons. Run Crown and Private, then run Crown. The difference will be the private contribution to the AAC over the planning horizon on average. In reality, a larger volume may be harvested in any year from private land than the AAC may predict since you are dealing with a small number of polygons.
4.2 How can I include polygons for height or age constraints, yet exclude them from harvest calculations?	Assign a harvest age of 999 years. This will ensure they are not harvested in the harvest simulations. Alternately, you can exclude them from your analysis and identify these in your rationale as contributing to other values, such as for WTP's.
4.3 Can % netdowns, height or age constraint be applied to some polygons separately?	No, the % netdowns, height or age constraints are applied to the whole Woodlot Licence.

	Questions	Answers
4.4	What is the relationship between the Harvest Age in the Polygon Data screen and the harvest age noted in the Harvest Schedule in [Calculations] ?	The Harvest Age is the earliest age at which you are prepared to cut the polygon. The harvest age in the Harvest Schedule is the actual age at which the harvest occurs. It is common to have the actual age older than the harvest age you specify by polygon, as delays in the harvest cue often result if there are many polygons to cut.
4.5	How do I compile a harvest rate for 15-cm Diameter at Stump Height (DSH), or to reflect my cutting Permit Utilization levels?	The utilization levels specified in WOODLOT refer to Inventory level utilization levels at Diameter at Breast Height (DBH), which differ from Cutting Permit utilization levels at DSH. VDYP does not support utilization levels less than 12.5 cm DBH in the Interior or 17.5 cm DBH on the coast. A 15-cm DSH is approximately the same as 12.5 cm DBH.

5.0 Reporting

5.1	Is there a way to print out the Volume/Time or Age Distribution graphs?	Yes. The graphs must first be viewed by choosing which graph you need from the 'Graph' menu in the Calculations screen. To save the graph choose 'Save Image' from the 'File' Menu. To use the clipboard, choose 'Copy Image' from the 'Edit' Menu. Then switch to the application that you wish to paste the graph into, then choose 'Paste' from the 'Edit' Menu. Note only one image or piece of text can be saved in the clipboard at a time.

6.0 Program Requirements

6.1	What does it mean when I get a message stating "Run Time Error ...."	Please call Enfor to enquire. Somehow the data you entered or adjusted has crashed the program. If you email your .lot file, Enfor can decipher the specific problem. A list of typical run time errors is provided in the appendices.
6.2	Is WOODLOT Y2K compliant?	Yes.
6.3	How do I view error messages generated during yield calculations?	If an error message is generated during the external yield calculation process, WOODLOT will automatically show the error message using the browser specified in the setting screen. Some users have reported that they could not see the error message that WOODLOT reported. This is due to WOODLOT being on top of the message. To show the error message, holding down the Alt key and the Tab key, this will cycle through all the applications you are currently running. The application title will be "ERROR.TXT – Notepad".

	Questions	Answers
6.4	How do I copy WOODLOT so I can give a copy to another user?	A copy cannot be made from an installed version of WOODLOT. A copy can be made from either the diskettes or the files download from the internet. Please see the WOODLOT REFERENCE MANUAL for a complete description of how to copy WOODLOT for Windows.
6.5	Who can I call for technical support?	Call Dave Haley, Resource Tenures and Engineering Branch at 250 387-8317, or Enfor at 604 984-0832.
6.6	How many polygons is WOODLOT limited to calculating?	400 polygons and 1000 hectares are current program limits. Contact Enfor Consultants Ltd. if you require a larger analysis. Other timber supply software is available for this purpose, such as Landscape Unit Planner.

7.0 General Items

7.1	What revisions are there from version 2.1 (summer 1998) to version 3.1 (January 2002)?	A general summary of revisions are listed in Appendix 11.

Appendix 13 - Runtime Error Messages

Should you experience a "runtime" error using WOODLOT, the following may be the problem.

Please call the WOODLOT support line or Resource Tenures and Engineering Branch if you encounter one of these so that we may determine the cause of the error.

Error #	Message	Description of possible problems
5	**Invalid procedure call**	Usually occurs when a parameter is too large for the procedure.
6	**Overflow**	A number entered is too big for the memory allocated. Sometimes occurs when importing TIPSY data and the THIN and THINNED columns are mislabeled.
9	**Subscript out of range**	Most common when polygons have been deleted in versions of Woodlot before 2.15. Occurs when a function tries to access information from a polygon that has been deleted or never existed. E.g. if you have 10 polygons but the software is looking for the area of polygon 11 which does not exist.
11	**Division by zero**	This sometimes occurs when loading a file that does not exist. Fixed in Woodlot 2.20. Occurs when a function tries to divide a number by 0.
53	**File not found**	When the program tries to access a file that no longer exists.
61	**Disk full**	If your hard drive / floppy drive that is being saved to becomes full.
62	**Input past end of file**	The file that was being opened/imported ended, the program had not finished loading the expected amount of information.
75	**Path/File access error**	Can happen if you try and save a report over an existing report that is being edited by Word. Either save the file with a different name or close the program that is editing the file.
76	**Path not found**	When the program tries to access a file in a path that no longer exists.

Appendix 14 - Standard Windows Functionality

1. Mouse

Click – Depress the Left mouse button once.

Double Click – Depress the left mouse button twice quickly. (Speed can be adjusted through control panel)

Right Click – Depress the Right mouse button once.

2. Standard Windows Shortcut Keys

F1	Help. (not available in all programs)
Tab	Move through the controls on the current window.
Shift Tab	Move backwards through the controls on the current window.
Alt Tab	Switch to the window you last used or switch to any other window by repeating.
Alt F4	Quit a program.
Ctrl Z	Undo last command. (Not available in all programs)
Ctrl Esc	Display the Start menu.

3. Clipboard (Cut & Paste)

Ctrl C	Copy selected text or image to clipboard.
Ctrl X	Cut selected text or image to clipboard.
Ctrl V	Paste from clipboard.

4. Print Screen Shortcut Keys

Print Screen	Capture screen image to clipboard.
Alt Print Screen	Capture image of current windows to clipboard.

5. Text Selection & Navigation Shortcut Keys

Delete		Delete the character to the right of the cursor or the selected text.
Insert		Toggles between over-write and insert mode.
Ctrl A		Select all text.
← or →		Move cursor left or right.
	Shift	Selects text one character at a time.
	Ctrl	Moves cursor one word at a time.
	Shift Ctrl	Selects text one word at a time.
Home or End		Move cursor to the beginning or end of the line.
	Shift	Selects text to the beginning or end of the line.
	Ctrl	Moves cursor to the beginning or end of the document.
	Shift Ctrl	Selects text to the beginning or end of the document.
↑ or ↓		Move cursor up or down one line at a time.
	Ctrl	Selects one line at a time.
Page Up or Page Down		Move cursor up or down a page at a time.
	Shift	Selects text one page at a time.

Appendix 15 - Glossary

(Source: "WinVDYP User Guide Version 1" January 20,1997, BC MOF, Resources Inventory Branch)

Air Method	VDYP calculation method which uses crown closure to calculate volumes. This method has been approved for operational use.
BA	***Basal Area -*** Total cross sectional area of all living trees measured outside bark at breast height measured in square meters per hectare (m2/ha)
Breakage	Soundwood losses due to felling and yarding breakage; not merchantable because the broken pieces are considered too small.
Breast Height	1.3 meters above the ground on the uphill side of the tree.
BHA	***Breast Height Age -*** Average age (ring count) of the top height trees at breast height.
Calculation Method	VDYP is designed to produce volumes using one of two measures of density: the air method, and the ground method. Only the Air method is currently supported by WinVDYP.
CC	***Crown Closure -*** The percentage of the ground covered by tree crowns as assessed from aerial photos (i.e. vertical projection)
Culmination Age	The age, in years, at which maximal mean annual increment occurs.
Culmination MAI	Maximum mean annual increment in stand volume measured in cubic meters per hectare (m^3/ha).
Decay	Soundwood losses due to physical and chemical processes caused by wood-rotting fungi.
Diameter	VDYP estimates quadratic mean stand diameter measured outside the bark at breast height. That is, the diameter of the tree of average basal area.
Even-aged	A forest stand in which a relatively small age difference (10 to 20 years) exist between individual trees, in contrast to uneven-aged stands.
FIZ	***Forest Inventory Zone -*** Geographical zones developed to provide a broadly based ecological classification of the forest land in British Columbia. See Appendix 2 for a FIZ map.
Gross Volume	Total standing volume (inside bark) of trees above the diameter limit, including stumps and tops measured in m^3/ha. e.g. Gross volume 7.5cm+ is the volume (ib) if trees >= 7.5cm DBH
Ground Method	VDYP calculation method which uses basal area to calculate volumes. This method has not been approved for operational use.
ib	***Inside Bark -*** With reference to measurements recorded inside the bark.
ITG	***Inventory Type Groups -*** Designation of species composition by one of 42 type groups, each being a unique combination of pure or mixed species. Please refer to the .FIP File Data Dictionary (Inventory Branch).

MAI	***Mean Annual Increment*** **-** The average annual increase in stand volume at a particular age. This value is measured in m^3/ha/yr.
Natural	Refers to a stand that regenerates naturally after a disturbance such as logging or a fire.
ob	***Outside Bark*** - With reference to measurements recorded outside the bark.
PSYU	***Public Sustained Yield Unit*** **-** Areas of land, usually a natural topographic unit determined by drainage areas.
SI	***Site Index*** **-** Top height in meters at Breast Height Age 50. Used as a measure of site productivity.
Species	A one or two letter code describing a particular commercial tree species. There are 27 different species codes and 5 genus code options in VDYP.
Species Percent	Percentage of the stand that the corresponding species occupies. Tree species percentage is based on relative gross volume above a specified diameter limit.
Stocking Class	A code indicating the degree of stocking, based on leading commercial species, stand age and/or diameter and number of stems per hectare. Please refer to the .FIP File Data Dictionary (Inventory Branch).
TSA	***Timber Supply Area*** **-** Areas of the province created by the Ministry of Forests for the purposes of analysis, planning and management of timber resources.
TIPSY	***Table Interpolation Program for Stand Yields*** **-** A database and graphical user interface supported by MoF, Research Branch and used primarily for generating managed stand yield tables.
Top Height	Average height in meters of the 100 trees/ha of largest diameter at breast height.
Total Age	Years since germination. Usually used with reference to stands of natural origin.
VAF	***Volume Adjustment Factor*** -A volume multiplier that will increase or decrease stand volumes (e.g. a value of 0.5 will halve all volumes).
W2B Factors	Flat factors, derived by PSYU, to account for both Waste2 and Breakage for individual tree species.
Waste	Soundwood portion of a tree or log which has more than 50% decay. Considered to be non-recoverable under current utilization standards

Appendix 16 - User Support

Contact the following if you have questions on the use of WOODLOT:

1. **Ministry of Forests:**

   Dave K. Haley, RPF - Woodlot Licence Forester
   BC Ministry of Forests
   Resource Tenures and Engineering Branch
   3rd Floor – 1450 Government Street
   Victoria, British Columbia
   Canada

   Tel.: (250) 387-8317
   Fax.: (250) 387-6445
   E-mail: **dave.haley@gems2.gov.bc.ca**

2. **Federation of BC Woodlot Associations Help line:**

   Carmen Wheatley

   Tel.: (250) 847-2834

3. **Enfor Consultants Ltd.:**

   Michael Greig, RPF, P.Eng - Woodlot Consultant
   Richard Kyle - Woodlot for Windows Programmer

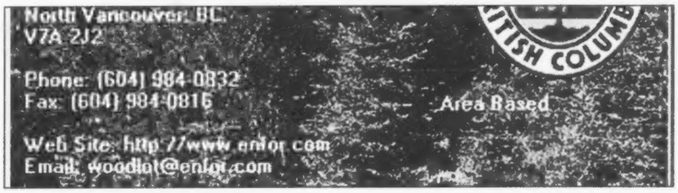
   Enfor Consultants Ltd.
   Suite 212-1200 Lynn Valley Road
   North Vancouver, British Columbia
   Canada V7J 2A2

   Tel.: (604) 984-0832

   E-mail: **woodlot@enfor.com**
   mgreig@enfor.com
   Internet: **http://www.enfor.com**

Appendix 17 - Area based Features (MOF Only)

Woodlot 3.1 can calculate AAC by Volume or by Area. The area based feature is NOT for general release and has been disabled by default. For information on enabling area based calculations please call the BC Ministry of Forests, Resource Tenures and Engineering Branch (Dave Haley, Woodlot Forester) at (250) 387 8317.



North Vancouver, BC.
V7A 2J2

Phone: (604) 984-0832
Fax: (604) 984-0816

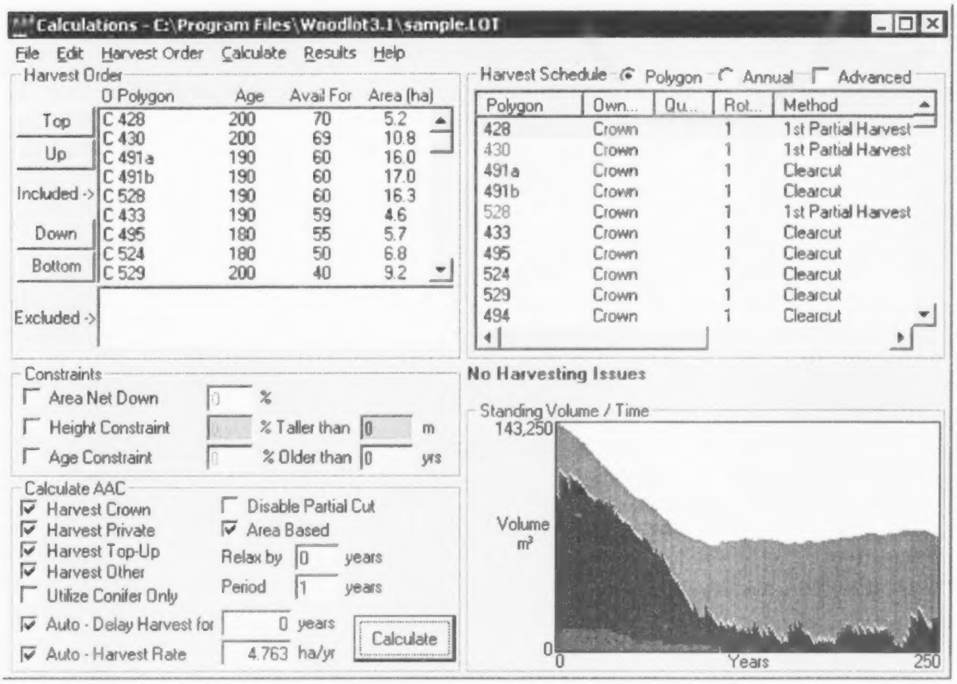
Web Site: http://www.enfor.com
Email: woodlot@enfor.com

Area Based

When the area based calculations are enabled the about screen will display "**Area Based**" underneath the Forest Service logo.

The calculations screen will contain three more options labeled:

1. Relax By
2. Period
3. Area Based



Calculations - C:\Program Files\Woodlot3.1\sample.LOT
File
Edit
Harvest Order
Calculate
Results
Help
Top
Up
Included ->
Down
Bottom
Excluded ->
Calculate

Harvest Order

0 Polygon	Age	Avail For	Area (ha)
C 428	200	70	5.2
C 430	200	69	10.8
C 491a	190	60	16.0
C 491b	190	60	17.0
C 528	190	60	16.3
C 433	190	59	4.6
C 495	180	55	5.7
C 524	180	50	6.8
C 529	200	40	9.2

Harvest Schedule ● Polygon ○ Annual ☐ Advanced

Polygon	Own...	Qu...	Rot...	Method
428	Crown		1	1st Partial Harvest
430	Crown		1	1st Partial Harvest
491a	Crown		1	Clearcut
491b	Crown		1	Clearcut
528	Crown		1	1st Partial Harvest
433	Crown		1	Clearcut
495	Crown		1	Clearcut
524	Crown		1	Clearcut
529	Crown		1	Clearcut
494	Crown		1	Clearcut

No Harvesting Issues

Constraints

☐ Area Net Down 0 %
☐ Height Constraint % Taller than 0 m
☐ Age Constraint 0 % Older than 0 yrs

Calculate AAC

☑ Harvest Crown
☑ Harvest Private
☑ Harvest Top-Up
☑ Harvest Other
☐ Utilize Conifer Only
☑ Auto - Delay Harvest for 0 years
☑ Auto - Harvest Rate 4.763 ha/yr
☐ Disable Partial Cut
☑ Area Based
Relax by 0 years
Period 1 years

Standing Volume / Time
143,250
Volume
m³
0
0
Years
250

Appendix 17-1 Relax By

The “relax by” option allows stands to be harvested by that number of years lower than their harvest age. The default in Woodlot is 0.

Note: this option was added for testing purposes only, has not been fully tested for general use, and should not be used without first consulting with Enfor.

Appendix 17-2 Period

The period option specifies the number of years between harvests. The default in Woodlot is 1.

Note: this option was added for testing purposes only, has not been fully tested for general use, and should not be used without first consulting with Enfor.

Appendix 17-3 Area Based

When the Area Based option is checked, the Harvest rate will be displayed in ha/yr. The calculation will have to be rerun.

Appendix 18 - WOODLOT User Manual Version 3.1 Revisions

The pages listed below have been revised or updated as of June, 2002 in the WOODLOT User Manual Version 3.1 to reflect updates to WOODLOT since January, 2001 when version 3.0 was released. Minor editorial changes have been made throughout the version 3.0 manual.

User Manuals are available from:

Ministry of Forests:

Dave K. Haley, RPF - Woodlot Licence Forester
BC Ministry of Forests
Resource Tenures and Engineering Branch
3rd Floor – 1450 Government Street
Victoria, British Columbia
Canada

Tel.: (250) 387-8317
Fax.: (250) 387-6445
E-mail: **dave.haley@gems2.gov.bc.ca**

Woodlot for Windows

Version 3.1 Release

Installation Documentation

Revision: February 12, 2002

Distributed to all MOF Regional and District Offices as of January 25, 2002

Ministry of Forests
Resource Tenures and Engineering Branch

Woodlot for Windows Version 3.1 Release

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Woodlot for Windows Reference Manual 2
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Testing Your Installation By Generating a Calculation 3
Testing the Report Writer 5
Contacts 7
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What's Included in the Woodlot 3.1 Release Package?

The following files are included in the Woodlot 3.1 package:

File Name	Description
WL31.EXE	Woodlot 3.1 Release software
WL31in.DOC	Woodlot 3.1 Release Installation Documentation (this document)
WLRM300.ZIP	Woodlot for Windows Version 3.0 User Manual (PDF format) – January 2000.

Introduction

Woodlot 3.1 Release is a Visual Basic 6.0 application developed for the Ministry of Forests, Resource Tenures and Engineering Branch, Woodlot Licence Program, for calculating non-declining, even flow harvest rates on woodlot licences in B.C. It is a Windows based model developed for use by operational forestry professionals, technicians and licensees specializing in woodlot licence management. Some highlights of Woodlot are:

- Uses both Variable Density Yield Projection (VDYP) and Table Interplation Program for Stand Yields (TIPSY)
- Allows for loading data manually or from spreadsheets
- Approximates forest cover harvest constraints and some economic harvest parameters
- Approximates partial cutting (updated Jan/02)
- Interactive harvest calculations
- Variety of data summaries
- On screen graphics of yield curves, standing volume over time and age class distribution
- Produces professional quality reports suitable for submission to the district manager for final determination of an Allowable Annual Cut (AAC). This report allows the licensee to identify and propose management activities which will fulfill many, if not most, of the information required for approval of the Management Plan.

Woodlot was designed to produce basic harvest rate calculations using forest cover and resource management information readily to forest district staff and licensees.

An important feature of Woodlot is that summary data and calculations are displayed. This is an attempt to make the data requirements and calculations transparent, and thereby more easily understood. Graphical displays improve the application's ease of use, assist the user with decisions for calculating alternative harvest rates and allow the user to view the implications of alternate harvest rates, constraints and alternate management practices. All polygon data and most parameters are adjustable on the screens (either by changing values in the data boxes or by making changes on the graphical displays).

Woodlot 3.1 Release has been tested on ministry standard workstations under Windows NT 4.0 SP6 and Office 97. Woodlot outputs reports to Notepad, Word, and Excel.

Woodlot for Windows Reference Manual

The electronic version of the *Woodlot for Windows Version 3.0 User Manual* is included in this package in PDF format. This manual is being updated and is scheduled for release in 2002. Woodlot information and downloads can be obtained by clicking on the Woodlot 3 icon.

Installation

By default, Woodlot 3.1 Release installs in **C:\Program Files\Woodlot3.1**. If you have a previous version of Woodlot 3.00x, it is highly recommended that you install this latest version in a different directory (or uninstall the previous version).

1. To install WL3.1 Release to a different directory than the default shown above, create a temporary directory on the server or local drive to hold the installation files. For example, create a directory C:\Download\WL3.1temp. Some systems persons may be doing multiple installations. If you will be doing multiple installs, it is recommended that you create a temporary directory on the server so that the files don't need to be extracted multiple times.

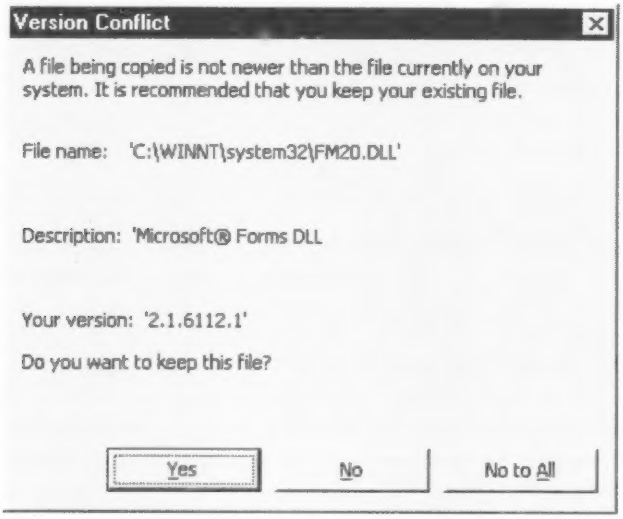
2. Double-click on WL31.EXE. The WinZip Self-Extractor will appear. Browse or type in the path created in Step 1. Click on the Unzip Button and then click on the OK button in response to the message "*9 file(s) unzipped successfully*." Click on the Close button on the WinZip Self-Extractor screen.

3. If a previous version of Woodlot is installed, you may get the following message: *Setup cannot continue because some system files are out of date on your system. Click OK if you would like setup to update these files for you now. You will need to restart Windows before you can run setup again. Click cancel to exit setup without updating system files.* Click on the OK button to let Windows NT update your system files and restart your system.

4. After step 2 is completed (OR if step 3 was needed, once your system has restarted), double-click on SETUP.EXE created in Step 2 above. An Install screen will appear with the following message: "*Copying Files, please stand by*." A Woodlot3.1 Setup screen will appear with "*Welcome to the Woodlot 3.1 installation program*." Please close out any applications before proceeding any further and then click on the OK button.

5. At the next Woodlot3.1 Setup screen, you may change the install directory if necessary. The default install directory is C:\Program Files\Woodlot3.1\ but the operator may wish to install the program in a different location. Click on the big button with a computer on it to proceed with the install.

6. The Woodlot3.1 – Choose Program Group screen will appear next. The default Program Group is Woodlot3.1. Click on the Continue button. A progress bar will appear.
7. Click on the Yes button if you get a Version conflict screen to keep the newer version of the file.



A file being copied is not newer than the file currently on your system. It is recommended that you keep your existing file.

File name: 'C:\WINNT\system32\FM20.DLL'

Description: 'Microsoft® Forms DLL

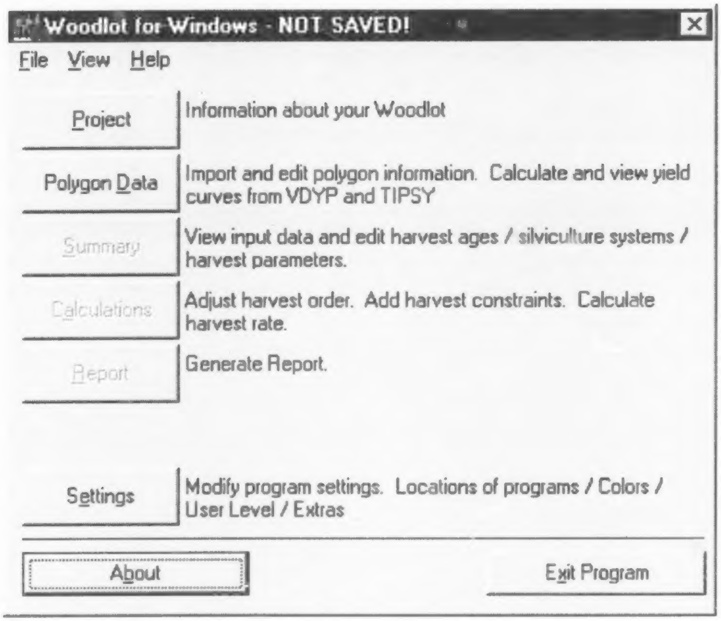
Your version: '2.1.6112.1'

Do you want to keep this file?

8. Click on the OK button in response to "*Woodlot.1 Setup was completed successfully.*" A program group called Woodlot 3.1 will be created in the Start menu with four shortcuts:
   - Batch TIPSY
   - TIPSY Help
   - WinTIPSY
   - Woodlot for Windows 3.1

Testing Your Installation By Generating a Calculation

1. Load Woodlot 3.1 for Windows. The following main screen appears after the About screen. Check the version by going to **Help** | **About** from the main screen. It should say Version 3.1 Release, Windows 95/98/ME NT 4/2000/XP, January 2002.


Woodlot for Windows - NOT SAVED!
File View Help
Project
Polygon Data
Summary
Calculations
Report
Settings
About
Exit Program

Information about your Woodlot

Import and edit polygon information. Calculate and view yield curves from VDYP and TIPSY

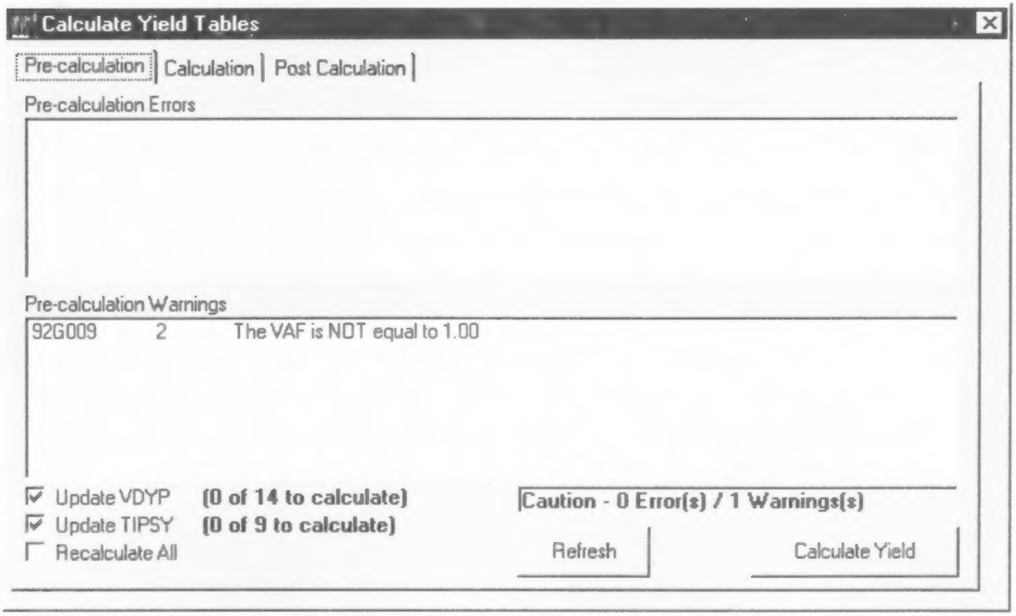
View input data and edit harvest ages / silviculture systems / harvest parameters.

Adjust harvest order. Add harvest constraints. Calculate harvest rate.

Generate Report.

Modify program settings. Locations of programs / Colors / User Level / Extras

2. From the main screen menu bar, choose **File** | **Open**.
3. Select the SAMPLE.LOT file and click on **Open**.
4. Click on the **Polygon Data** button on the main screen.
5. Select **Yield** | **Calculate Yields** from the menu. The following Calculate Yield Tables screen appears:


Calculate Yield Tables
Pre-calculation
Calculation
Post Calculation
Pre-calculation Errors
Pre-calculation Warnings
Refresh
Calculate Yield

```
92G009          2          The VAF is NOT equal to 1.00
```

☑ Update VDYP **(0 of 14 to calculate)**

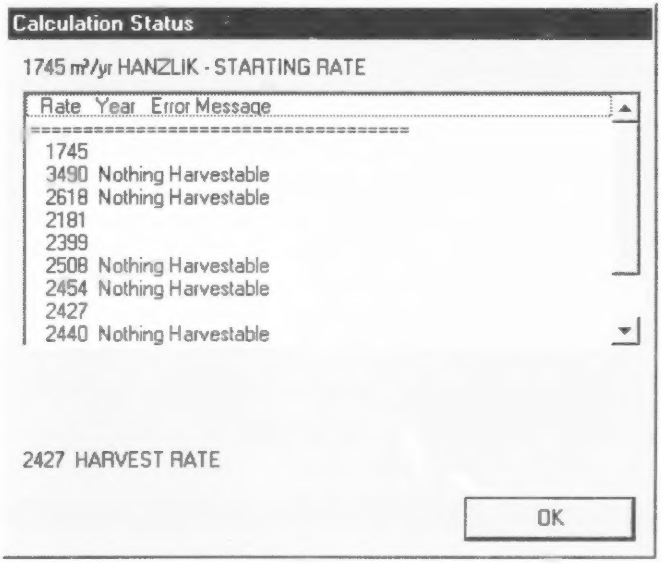
☑ Update TIPSY **(0 of 9 to calculate)**

☐ Recalculate All

Caution - 0 Error(s) / 1 Warnings(s)

6. Turn on the **Recalculate All** check box.

7. Click on the **Calculate Yield** button. Woodlot will now shell out and run an external program called VDYP. When VDYP has completed, Woodlot will import the generated data file. Woodlot will shell out again and run another external program called TIPSY. When TIPSY has completed, Woodlot will import the generated data file.
8. Select **File | OK** from the Polygon Data screen to go back to the main screen.
9. Click on the **Calculations** button on the main screen.
10. Click on **Calculate | Harvest rate** from the Calculations screen. The Calculation Status screen will appear. Click on the OK button to exit out.



1745 m³/yr HANZLIK - STARTING RATE

```
Rate  Year  Error Message
=====================================
  1745
  3490  Nothing Harvestable
  2618  Nothing Harvestable
  2181
  2399
  2508  Nothing Harvestable
  2454  Nothing Harvestable
  2427
  2440  Nothing Harvestable
```

2427 HARVEST RATE

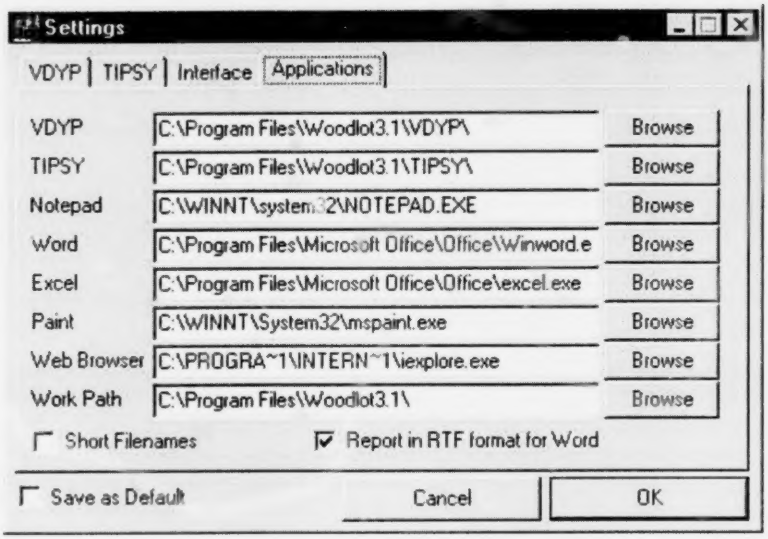
11. Select **File | OK** from the Calculations screen to go back to the main screen.

Testing the Report Writer

A calculation must be run before a report can be generated. To run a calculation, please perform the steps outlined in *Testing Your Installation* starting on page 3.

1. Click on the Settings button on the main screen. You will get the Settings screen that will look like the one below with the paths of various programs configured automatically.
2. Note: There is a new Work Path setting. This is to set your default directory to save your LOT files and any reports that you may want to store. The default location is C:\Program Files\Woodlot3.1\. If you want to change your default file save location, you will need to create a directory and store at least one LOT file in the newly created directory before coming to this screen. The sample file SAMPLE.LOT can be copied from C:\Program Files\Woodlot3.1 to the newly created directory.

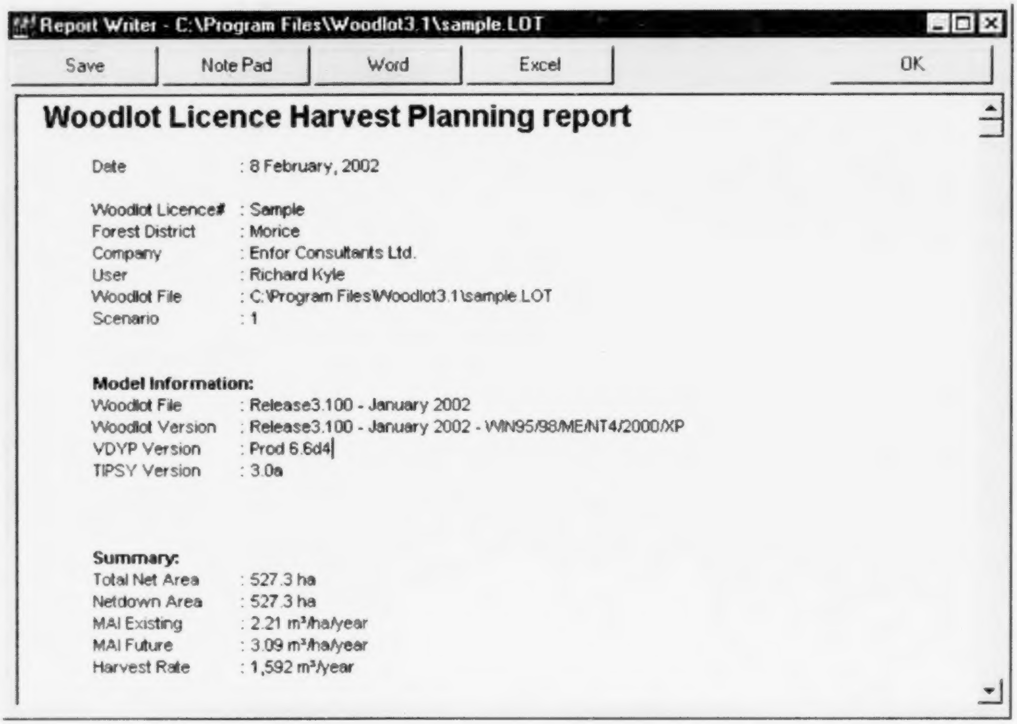
   Click on OK to exit out of this screen.



VDYP: C:\Program Files\Woodlot3.1\VDYP\
TIPSY: C:\Program Files\Woodlot3.1\TIPSY\
Notepad: C:\WINNT\system32\NOTEPAD.EXE
Word: C:\Program Files\Microsoft Office\Office\Winword.e
Excel: C:\Program Files\Microsoft Office\Office\excel.exe
Paint: C:\WINNT\System32\mspaint.exe
Web Browser: C:\PROGRA~1\INTERN~1\iexplore.exe
Work Path: C:\Program Files\Woodlot3.1\

☐ Short Filenames
☑ Report in RTF format for Word
☐ Save as Default

3. Click on the Report button on the main screen.
4. Click on each of the buttons on the Report Writer screen (**Save**, **Note Pad**, **Word**, **Excel**, **Print**). They should all work.



Woodlot Licence Harvest Planning report

Date : 8 February, 2002

Woodlot Licence# : Sample
Forest District : Morice
Company : Enfor Consultants Ltd.
User : Richard Kyle
Woodlot File : C:\Program Files\Woodlot3.1\sample.LOT
Scenario : 1

Model Information:
Woodlot File : Release3.100 - January 2002
Woodlot Version : Release3.100 - January 2002 - WIN95/98/ME/NT4/2000/XP
VDYP Version : Prod 6.6d4
TIPSY Version : 3.0a

Summary:
Total Net Area : 527.3 ha
Netdown Area : 527.3 ha
MAI Existing : 2.21 m^3/ha/year
MAI Future : 3.09 m^3/ha/year
Harvest Rate : 1,592 m^3/year

5. Click on the OK button to go back to the main screen.
6. Click on the **Exit Program** button the main screen when you have finished your testing. Congratulations, you are done!

Contacts

For technical problems, please contact:

Terry McDonald, Systems Analyst
Phone: (250) 387-6782

E-mail: Terry.McDonald@gems9.gov.bc.ca

For end-user problems, please contact:

Dave Haley, Woodlot Licence Forester
Phone: (250) 387-8317
E-mail: Dave.Haley@gems2.gov.bc.ca

Woodlot 3 – 3.1 Updates

BETA

- fix first harvest age was being used for two rotations

3.00-3.005

- start VDYP and TIPSY as a process instead of a shell
- save RTF Report to Disk and then display on screen
- add include all species
- fix reorder species to also reorder the included checkbox
- add PSYU name
- remove Region and Compartment Information from CSV export
- add print screen functions to all pages
- make help screen resizable
- add columns to Harvest Schedule for Standing Conifer vs Deciduous
- fix spelling mistakes in report and on screen
- add issues column to both harvest schedule reports
- fix calculation of average volume for selected polygons
- fix partial cut

3.005-3.006

- bring calc yield errors to front, was hidden behind polygon data screen
- remove MapSheet-Polygon# and replace with Polygon Name

3.006-3.007 (MOF VERSION)

- fix program from crashing after importing from TIPSY
- fix work file location which was not saving correctly
- remove some machine specific settings from lot file

3.007-3.008

- Calculate yield screen; the pre calculation check wasn't updating if the user made changes to polygons while the screen is open.
- Add function to automatically register .lot files with Woodlot
- Remove purged polygons from sort order and remove graph and report. Polygons that had been purged still remained in the default harvest order. This was causing the program to crash.
- Fix labels for mature / immature on settings screen

3.009-3.009 (Feb 22, 2001)

- NAME field addd to the import CSV function. Woodlot now combines the polygon and mapsheet fields to a single field called name. When exporting CSV files, Woodlot now outputs this single field, the import CSV function had to be modified to accept either the mapsheet polygon fields or the name field.
- CSV import shows an error message for all fields that are in the CSV file that Woodlot doesn't recognize. The VSICalc (VDYP Calculated Site Index) field is exported by Woodlot and so the error message was confusing users when they re-imported files exported from Woodlot.
- In the Report, harvest ages for NSR and NC polygons (in section 3a) were causing a subscript out of bounds message.

3.009-3.010 (March 15, 2001)

- The "conifer only" check box on the calculation screen was not remembering its previous setting.

3.010-3.011 (March 26, 2001)

- stop purge polygon from crashing program if calc screen hadn't been run

3.011-3.013 (March 31, 2001) 3.017-3.019 and 3.021

- All releases related to development of an Area Based version for internal Ministry of Forests use.

3.013-3.014

- Fix 100% deciduous roads were making program crash

3.014-3.015

- Fix Harvest Volume by Species Graph (TIPSY species were overwriting VDYP Ids when creating index)

3.015-3.016

- CSV import will not ignore quoted identifiers i.e. "MAPSHEET". It used to only support MAPSHEET.

3.020

- OAF 1 and 2 not exporting because tipsyoaf set to 0 in the settings. This check box was removed but some lot files still had the option set to off. All functions that used the tipsyoaf setting have not been updated to ignore it.

3.022 (November 2001)

- Change expire date to March 31, 2002

3.023 (November 2001)

- Add update all genetic worth on the polygon data screen

3.024 (November 2001)

- Fix bug that caused different rates for Auto Harvest vs. Harvest because of error checking age 999

3.025

- Fix bug on showing polygone with error
- Fix Save to do Save As if filename not set

3100

- Fix bug for harvest age of 0
- No expiry date
- Change to release version
- Fix year to harvest (was one too many)
- Fix harvest report to show blank block for nothing harvested

- Add percent harvested
- Change PC cut down to from reentry years to percent harvest
- Auto split polygons
- Harvesting Issues (display amount of Annual vs. Polygon)
- Save selected on summary screen between operations
- Tab order on Silvi System
- Automatically select text in textboxes on Silvi System

3100 final

- PC Cut down to adjusts if entry is longer than 1 year
- Add percent harvested to report
- Change header to cul (culmination) from cur in section 2e of the report
- Add more items to Glossary for section 2e
- Remove regen delay on partial harvest polygons
- Hide regen delay on polygon data screen when current poly is set to pc